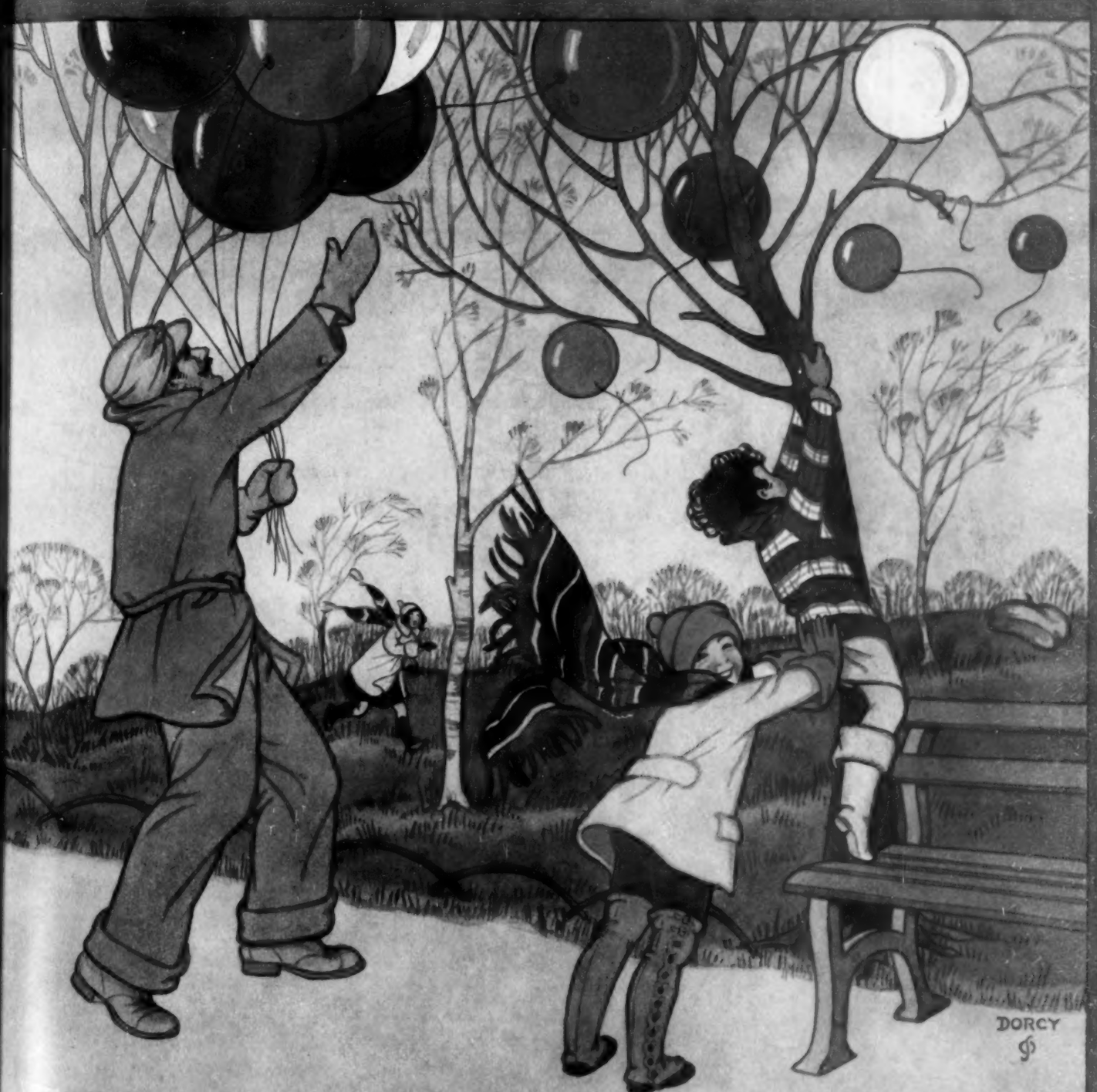
FEB 24 1930

HYGEIA

THE HEALTH MAGAZINE

Published by the American Medical Association



March, 1930

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HYGEIA, the Health Magazine, is published monthly by the American Medical Association, 535 North Dearborn Street, Chicago, Ill. Yearly subscription price, $3.00; for foreign postage add 50 cents. Volume 8, Number 3. Entered as second-class matter March 21, 1923, at the postoffice at Chicago, Ill., under the Acts of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1,103, Act of October 3, 1917, authorized March 21, 1923.

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THE HEALTH MAGAZINE

Published by the American Medical Association
Edited by Morris Fishbein, M.D.

VOLUME 8 MARCH, 1930 NUMBER 3

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WHO'S WHO IN THIS ISSUE

DR. LAUREN H. SMITH gives good advice on mental health from her experience as head of the department for women in a large eastern hospital for mental and nervous diseases. Another familiar contributor is DR. W. W. BAUER, a city health commissioner of Wisconsin. Many families find themselves in the predicament of the Joneses, whose experiences in locating a family doctor in a strange city is so graphically told by MRS. HELEN H. FORTUNE.

Following the much discussed article on reducing diets which appeared last month, MISS E. M. GERAGHTY—this time in collaboration with DR. C. D. CHRISTIE—discusses another important problem of diet.

DR. I. HARRISON TUMPEER is an authority on mongolian idiocy and is a frequent contributor to scientific periodicals. DR. JESSE R. GERSTLEY, a pediatrician, tells of his dramatic experiences with epidemic meningitis in the Army of Occupation. The article is timely in view of the present outbreak of meningitis.

More advice is sought from HYGEIA on how to prevent loss of hair than on almost any other subject. DR. SIGMUND S. GREENBAUM'S article should be helpful to all those who fear baldness. DR. JOHN BERTON CARNETT is a surgeon, a professor of surgery and a member of an important committee on cancer control.

DR. JOHN A. FOOTE believes that most persons give the credit for the work in child health to the efforts of social workers and nurses. In this article he tells of the pioneering efforts of physicians in that field and of their most important contributions. LULU G. GRAVES, a consulting dietitian, writes another helpful article for HYGEIA readers—this month on nuts and their value as food.

DR. B. C. H. HARVEY'S series on human anatomy is being widely read and many HYGEIA readers are awaiting its publication in book form.

Published monthly by the American Medical Association, 535 North Dearborn Street, Chicago. Subscription price $3 a year. Single copies 25 cents. Foreign subscriptions $3.50 a year.

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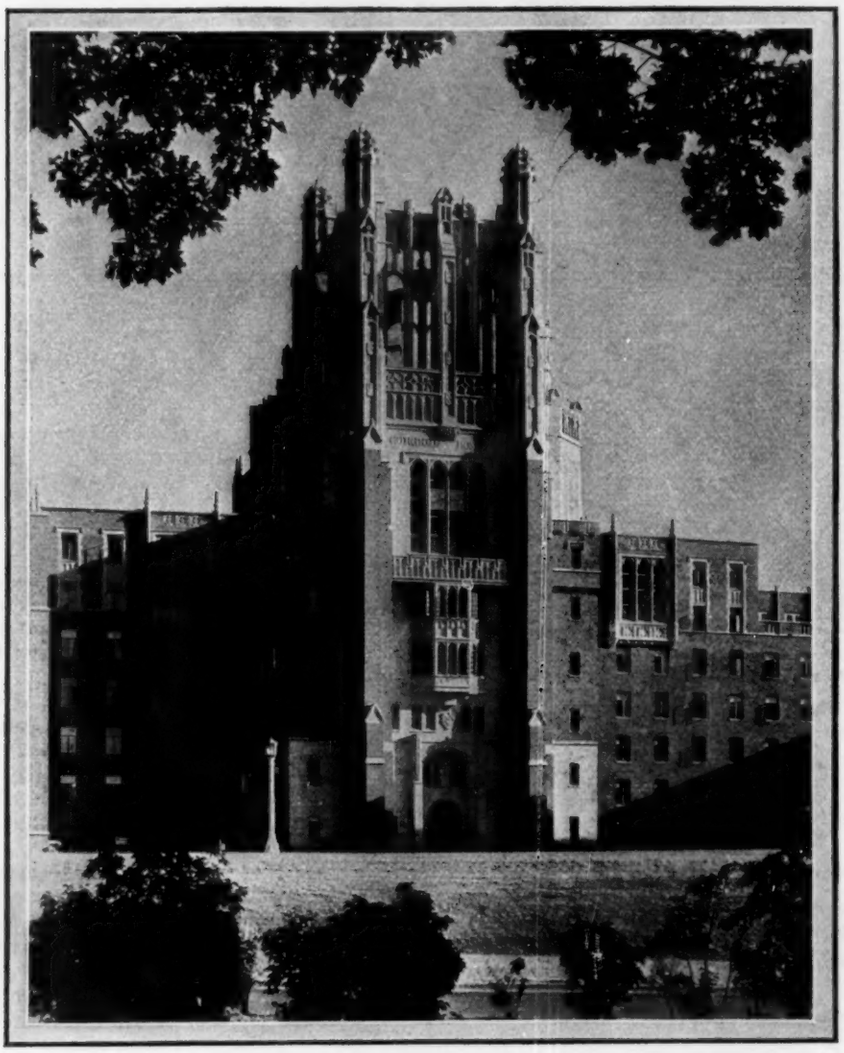
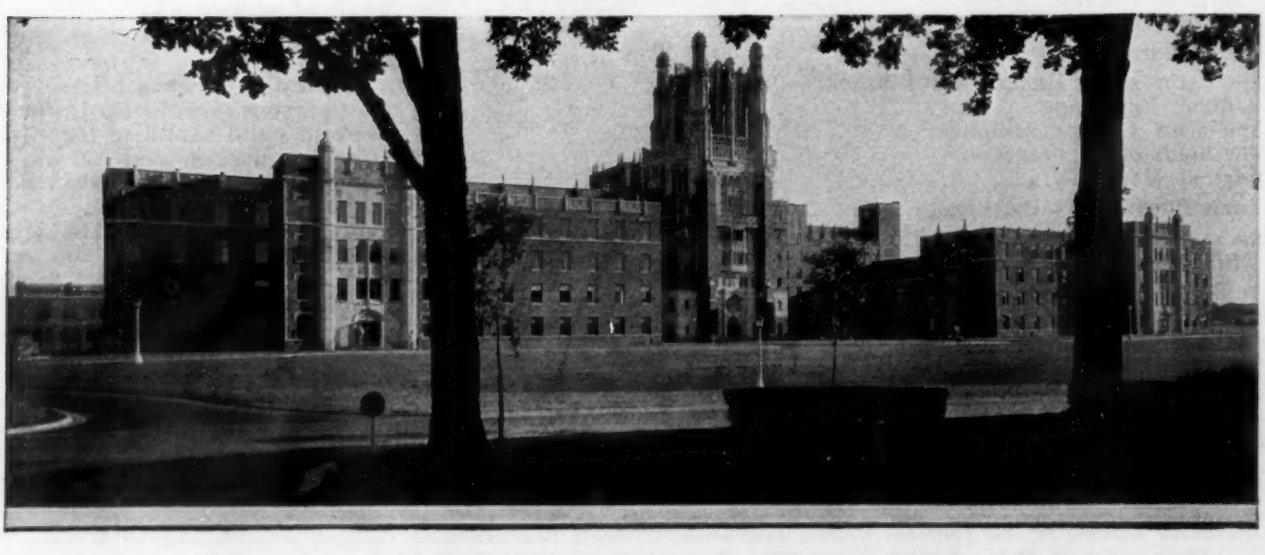


TEMPLES OF HEALING

VI. University of Iowa General Hospital, Iowa City



How Sensitive are YOU?

Asks Lauren H. Smith

The artist uses his sensitiveness to develop his work.

WHEN there are not many minutes left in the morning in which to get dressed and eat breakfast in order to arrive at the office on time, no ordinary man stops to think whether he should first bathe or shave or whether the left shoe should take precedence over the right. He carries out the acts of dressing automatically, without any thought activity at all.

In the same manner we carry out most of the accustomed acts of our everyday life. As a result we live efficiently, when it concerns only our physical life and acts. The same efficiency should apply in our mental life and processes. One of the purposes of mental hygiene is to teach us to use in our minds, in work and in everyday activities, the same attitude, system and efficiency that we use in our bodies.

Each of us has a personality or a character or a temperament that is made up of many parts. One of these parts is sensitiveness. We are sensitive to heat and cold, pain, and light and darkness through our sensory nerves. We are sensitive to the attitude and point of view of others and to their opinions about us through our feelings, or emotions. Our emotional sensitiveness spurs us on to do things, good or bad, depending on how we handle it. It is a fine stimulus for us if we are using it correctly, but the danger comes when we misuse it. Then it really becomes our master instead of our slave.

Most persons whom we consider great and accomplished are those who have put their sensitiveness to good use on simple and worth while work. Otherwise they differ little from their neighbors. Others have the same qualities in their make-up, but their sensitiveness to life and to those about them is a handicap rather than an aid. The error is in the individual's not understanding himself and his characteristics. It does not matter so much what is good and bad about him; the important thing is for him to know what he has to work with and to guide himself accordingly.

Using energy to develop the good is much to be preferred to using it to fight the bad. The bad need not be combated if it is understood, because it then has no control over us. The things that cause us the most difficulty in life are those we know the least about. If we have knowledge about something, we take it for granted and handle it more or less automatically. In the same fashion we learn to take certain characteristics for granted, and thus they lose their influence over us.

Every one who has learned all the fundamentals or principles of any job then begins to do that job without the use of much thought or energy. It becomes second nature to him and takes little attention. We call such a worker a skilled worker. But we fail to use this principle in our mental work and life. It holds good there also, in that we may become skilful in handling our minds. We use little energy or worry, if we acquire a thorough knowledge of our mental make-up.

Sensitiveness is one of the parts of our mental make-up that we are the least aware of or learn the least about unless we study ourselves. It is valuable but also dangerous.

The musician is sensitive to musical tone and quality. Because of this he is able to make a beautiful composition, which we enjoy in its entirety. The artist can see color and in the same way can combine separate colors into one beautiful landscape. The ordinary individual enjoys the end-result but, without the sensitiveness possessed by artists, he cannot see the beauty of the portions and the possibilities of their combinations.

This is true also of the sculptor and of others whom we ordinarily call artistic. The important thing to note under these circumstances, however, is that these persons use their sensitiveness to develop their work. Provided they go only as far as that, it does not become a liability to them but is a continued benefit.

When sensitiveness is aroused, some emotional reaction is produced. The individual notices the emotion that sways him and is liable to react to it, particularly if he is not possessed of an understanding of the situation. A disfigured cripple, having difficulty in making social contacts because of his appearance, may become dejected and withdraw more and more from people. But he can refuse to react to the emotional impulse to do so and instead carry out extra efforts to make himself liked for other things. Thus his sensitiveness serves to spur on the advancement of the best part of his make-up.

There are physical difficulties such as pain or discomfort to which we are sensitive. Some of us are "knocked out" by a headache or digestive upset but others with the same degree of physical disturbance continue their work. In both instances there probably is an equal amount of discomfort. But those persons who are hypersensitive allow their discomfort to control them completely. This is true in the group of common conditions called the psychoneuroses, made up mostly of those frequently found diseases neurasthenia and hysteria.

Persons troubled with psychoneuroses are perfectly normal. Their brain and their bodily organs are all right, but their operation of them is at fault. If we drive our neighbor's car, we may have trouble in starting it or keeping the engine going. Yet the owner has no trouble. The car is all right but it is being poorly operated. So it is with hypersensitive persons in handling their own minds and bodies. The apparatus they have is first class but the way they use it is bad.

Such persons are different from the average in that they have an extra amount of sensitiveness in their make-up. They are extremely sensitive to a little discomfort or any ailment. When such trouble comes along, they react to it so markedly and are so upset about it that they fall into faulty physical habits. Even after the temporary physical disturbance has cleared up, they still feel some sensation that has been associated with it. This is because the attention has been held on the sensation so long and so intensely, that a similar feeling, or fear of it, still persists. Since they were so bothered by the condition, they find themselves unable to differentiate efficiently between the pain and the left-over pain sensation. Unless they get an understanding of their own hypersensitiveness, it continues to be a great problem to them and they get in the habit of frequently overvaluating it.

Keeping our attention on hypersensitiveness, unless we have a proper understanding of it, acts in the same fashion as using a pair of field glasses. If we look through the field glasses the object stays the same distance and size but it is magnified by the lens several times. If our attention is on something that arouses our sensitiveness acutely, and we do not know just what it is or how to handle it, our emotion is aroused

Here Is Good Advice

1. Use your sensitiveness in order that it may not use you.

2. The intelligence is a steering wheel and must be used to guide you correctly. It must be applied to your acts before they are carried out, instead of afterward.

3. Get an understanding of your mental strength as well as your physical prowess.

4. Learn to evaluate pleasure and pain according to their actual worth, not according to your emotional reaction to them. Otherwise disagreeable situations or discomfort will hold the attention unduly.

5. Hypersensitiveness must neither be avoided nor combated directly. It must be understood and judiciously used to advantage only.

In the face of danger, the lower animals will flee immediately, but man chooses to flee or fight, depending on what he considers best under the circumstances.

and magnifies the thing in our experience. But if we inform ourselves correctly, then a "matter of fact, take it for granted" attitude follows, there is less emotional reaction, and the thing that bothers us is accepted only at its face value.

One young woman had a friend in a distant land who had three children. The friend died, and the children were separated, to live in three different homes. When the young woman received a letter from an acquaintance telling of this occurrence, her sympathy for the children was so keen that she was unable to eat, work or sleep properly for three days. All she could do was to imagine those children separated in three homes. Such sympathy and kindness of heart as she had were due to her sensitiveness. The sadness she felt over this matter was deep and affected her constantly. Yet, from the practical standpoint, her reaction was not one that promises an efficient, productive life for her. She was under the control of her emotions entirely.

Emotion is born in us. Whatever is born in us we have no control over. Thus our anger, our love, our joy, our fear and our sadness are born in us as emotional reactions, things that we cannot control. But it is only the beginning of these emotions and their original presence in us that we cannot control. Our physical expression of such emotion, or our behavior, we can control. We do not need to fight because we are angry; we do not need physically to demonstrate in action our love; we do not need to flee from danger when we fear; we do not need to give ourselves up to moaning and despair when we are sad. In other words, we have the power to control our response to the emotion that is present and we can do it under all circumstances, if we have a complete knowledge of ourselves.

Emotion arises automatically in both lower animals and man. In the lower animals it immediately acts as the mainspring and power for action, and the animal must act according to the emotion that drives him. In man the emotion likewise is the mainspring and power for action, and it must come out in some way. But man has the ability to direct the outlet of the emotion into any type of action he intends to follow. As a result, in the face of danger, the animal flees immediately, while man chooses to flee or to fight, depending upon what he considers best under the circumstances.

Sensitiveness, then, can get us into difficulty in handling our emotions by enlarging them in our everyday life. It is important to gain an insight into the fact that we may be oversensitive and to direct our emotions into proper channels of action rather than to permit them to direct our action by themselves.

The rhinoceros is not sensitive to temperature. His thick skin keeps out the cold and other changes of temperature and acts as a mechanical interference. But who wants to be as stupid and insensitive as a rhinoceros? We must work out our problem on a different basis from that of a thick skin, in that the internal workings must be in good operation.

H. Armstrong Roberts

Children Who Might Live

By W. W. Bauer

IF I were to tell you that there lives a man—and a woman, his wife—with three children under the age of 5 years, and that those children are menaced daily by possible illness, crippling and death, you would be horrified.

Suppose then you were told that these parents had within reach the weapon that would protect the children against the threat—you would breathe a sigh of relief. If you were told that they were unaware of the existence of such protection, wouldn't you want to know why? Finally, assume that they had shrugged their shoulders indifferently and declined to pay attention to this weapon—what would you think then?

Such parents live, many of them. Some who do not know of the weapon; some who are indifferent. They are the fathers and mothers of hundreds of thousands of American children. True, their number is declining each year, but there are still enough of them left to account for a tremendous toll of death, disability and suffering from a preventable cause. That cause is diphtheria.

The medical profession knows a great deal about diphtheria, enough to make it a disease so rare that medical students would be willing to travel great distances for an opportunity to see a case. And yet diphtheria persists; it kills annually thousands of children, mostly under the age of 5 years, but in numbers that are not negligible up to the age of 10. A few deaths occur in higher age groups, even including an occasional adult. But the concentrated menace is in children under the age of 5 years.

A health commissioner of the state of New York has made the statement that more is known as to the cause, prevention and cure of this disease than of any other. We can see the organism that invades the body and, growing there, produces the local disease and the poison which, absorbed, damages remote organs. We have learned to cultivate the malefactor artificially and thus to study his habits and characteristics. We have learned to prepare a chemical substance that will render him helpless if used soon enough after his depredations have begun. We have even found means to determine who is and who is not susceptible to his inroads. Last and most important, we have at hand the ability to prevent these inroads completely. In spite of all this, diphtheria continues to be a major problem of the public health, which simply means that it is a major problem for every father and mother.

It is but fair to say that many thousands of parents have availed themselves of the knowledge we have about diphtheria. In New York City alone more than half a million children have been immunized against diphtheria in the first ten years of wide public application of the measure. Other cities, and many rural regions, will add their scores and hundreds of thousands.

Probably no one will ever know how many children in the United States and Canada have

been protected against diphtheria, because even if the records were compiled of those who have been protected by public departments, there would still remain those treated by private physicians. It is not these children who are important in the diphtheria problem as it exists today. It is those who remain unprotected who are in danger themselves and are endangering others in like condition. It is among these that we expect the seeds of diphtheria infection to remain alive.

The description of diphtheria as a disease is beside the point here. In fact, efforts to describe the disease for nonmedical readers are not to be justified; it is a condition that has been known to deceive experienced physicians. In its typical form the merest tyro ought to recognize it; its menace is that it does not always appear in typical form and that some of its most dreaded results are delayed until after apparent recovery.

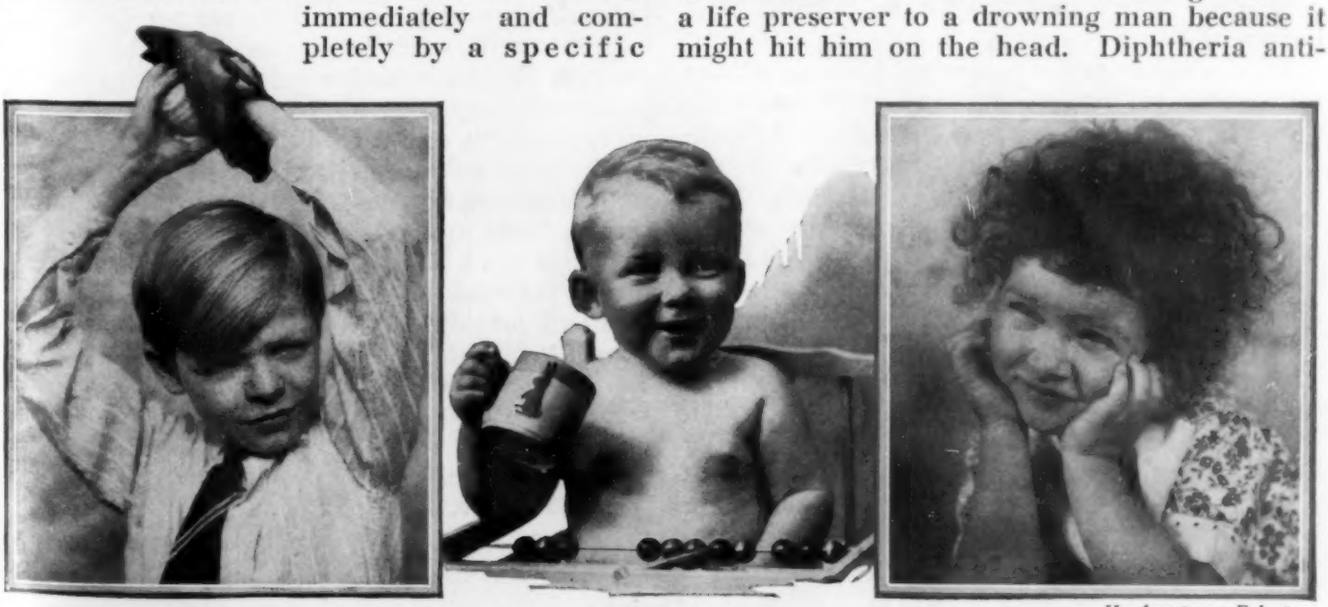
What, then, should the average father or mother know of diphtheria? Just enough to be suspicious of certain danger signals and to call for medical aid when they appear. No more! It is not in little knowledge that danger lies, but in the belief that that little knowledge is great.

Every father and mother should know that every sore throat and croupy cough are to be suspected of being diphtheritic. It is to be considered guilty until proved innocent, not vice versa, as is common practice with gun men and other malefactors, diphtheria included. Forget what you have heard about gray patches and diphtheritic odors; forget everything except that every sore throat or croupy cough, no matter how slight, is to be regarded as diphtheria until proved otherwise.

The cure of diphtheria is an accepted fact. "Cure" is a word much abused. Many diseases may be treated successfully, but only a few can be cured. To cure a disease is to terminate it immediately and completely by a specific agent. Diphtheria can be cured, because we have the specific means, which is diphtheria antitoxin. This was worked out by von Behring and Roux and announced in 1893, being introduced into the United States two years later by Dr. William H. Park of the New York City board of health. Like all new things, antitoxin had to fight its way to recognition. It is still fighting, and probably will have to do so as long as prejudice and misinformation remain common bases of human judgment. Even so, the acceptance of diphtheria antitoxin by the medical profession and, upon the physicians' recommendation, by a majority of the lay public, has revolutionized the treatment of diphtheria. It has tremendously reduced the annual death toll and has even been useful to some extent in preventing diphtheria, but only upon a limited scale and among those directly exposed to known cases.

Even such a beneficent discovery as diphtheria antitoxin has been subject to misunderstanding and in some instances deliberate misrepresentation. To be effective, it must be used early in the course of a case. A life preserver must be thrown to a drowning man while he is still able to grasp it. It would be ridiculous to blame a drowning upon the life preserver because the man sank immediately after it had been thrown to him. Yet deaths from diphtheria have been blamed upon antitoxin because, administered too late, it was soon followed by the death of the patient. It is current belief that diphtheria antitoxin damages the heart. The truth is that heart damage comes from diphtheria; it is one of the symptoms of the disease, and antitoxin is the only thing that will prevent it.

Yet while such fallacies persist in the minds of parents, they lead to failure or refusal to permit antitoxin to be used; they paralyze the only effective weapon against diphtheria. This situation is about as reasonable as refusing to throw a life preserver to a drowning man because it might hit him on the head. Diphtheria anti-



H. Armstrong Roberts

toxin should not be discredited because it fails to rescue when all chance has been sacrificed by loss of time. Shall we let a man fight for his life in a raging flood without offering aid, because he might not need it?

Diphtheria antitoxin has been cited as a reason why diphtheria prevention is unnecessary. This line of reasoning is that we have a cure and can treat cases as they occur; therefore we need no longer regard diphtheria as dangerous. Returning again to the previous simile: do we knowingly tolerate leaking and dangerous ships merely because they are equipped with life preservers? Is it not foolhardy to depend upon rescue in extremes when emergencies can be forestalled?

There is a classic story of an admiral who decorated a sailor for heroism in capturing a cannon which had broken loose upon the gun deck and was creating havoc as it was dashed to and fro by the rolling of the ship. Then he had the man shot for negligence in allowing the gun to break loose.

The prevention of diphtheria depends upon the knowledge that minute quantities of diphtheria poison, which in large amounts causes damage, produce reactions of defense. That is why, even before antitoxin, not all diphtheria patients died; only about half of them! Those who were fortunate in getting small doses or who had a powerful mechanism of defense recovered.

Making the Antitoxin

The first practical application of the knowledge of the defense mechanism was to utilize it, in horses, for the making of antitoxin. The next logical step was to permit human beings to make their own. This has always been going on and is a normal function of the human mechanism; the problem was so to stimulate and control it that it could be used as an actual defense against diphtheria instead of just an occasional haphazard protection which "just happened."

The administration of minute doses of the diphtheria poison, neutralized with antitoxin until it is powerless to harm but potent to stimulate, accomplishes the desired result. Three doses are usually required, a week apart. Thus divided, the treatment is free from discomfort after the individual doses, and the administration itself is a minor matter, as evidenced by the cheerful way in which children line up for their injections.

How is one to know that diphtheria prevention has worked? Unlike smallpox vaccination, it leaves no scar or other visible evidence. We know that a large percentage of children are protected with three doses, this varying from 75 per cent to 95 per cent. It is obviously important to discover those who have not been protected, in order that they may not rely upon being safe and thus be denied proper treatment in case they do get diphtheria. Such occurrences react not only to the detriment of the child concerned, but deter others from taking prevention. This is where the Schick test is useful.

Mention of the Schick test has been intentionally omitted until now, because many parents have a confused impression as to what it is. They often ask why it is necessary to test a child three times, when they refer in reality not to tests but to the immunizing treatment, given in three doses. The Schick test is now customarily given six months after the immunization is completed, in order to distinguish those who are fully immune from those who are not. In the beginning, it was usual to test all children before immunizing them, but experience showed this to be needless, the proportion requiring protection being so great as to render preliminary testing superfluous.

The Schick Test

The Schick test after six months is a necessary part of a complete course of diphtheria prevention. If it discloses that success has been only partial, then two or sometimes three additional doses of the toxin-antitoxin mixture should be given, to be followed by another Schick test six months later. The number remaining unprotected after that is insignificant: in my own series of cases it is roughly 1 per cent of those carrying through to the second Schick test.

There are three ways to become immune to diphtheria. The first is nature's own way, to have the disease and recover. This is dangerous, even with antitoxin, as shown by the fact that mortality still ranges from 6 per cent to as high as 15 per cent of cases. The second is to be subjected to slight, repeated accidental exposures, never sufficient to result in demonstrable illness. This is equally hazardous, because obviously no one can ever predict when exposure will result in disease. The third is to convert the body under scientific control into a manufactory of diphtheria antitoxin against an emergency, and before the emergency arises. This is the theory underlying diphtheria prevention, and this is how it works. The choice among these methods should be obvious.

To get back to the man with three children —and the woman, his wife. The weapons are at hand to relieve them of one great anxiety connected with the health of their children. They can cross diphtheria off the list of their worries. While many have done so, there are still too many who have not. Whose fault is that? You must look to your own community for the answer.

Perhaps your city or county health officer has not awakened to the importance of diphtheria

prevention; possibly your local physicians are not familiar with the latest advances in the battle against this disease? Has your press never published information as to the work of other communities in exterminating diphtheria? Does your school medical service fail to advocate diphtheria prevention? Can it be that your local child welfare organizations have omitted diphtheria immunization from their program for child health?

I take leave to doubt that all or even most of these things are true. Even if they were, you could with difficulty escape seeing the articles that have been published in national nonmedical magazines; even the advertising pages carry the message through the medium of a great insurance company.

It's Up to the Parents

No, the explanation lies deeper than that. The man or the woman, or both, have neglected or declined to seize the weapon and get into the fight oftener than they have remained in ignorance. This is true at least among those who can read or write, and the neglect of diphtheria prevention is by no means confined to the illiterate or those who read only foreign languages. It is astonishing how, in the latter groups, the information has been spread by word of mouth and how they have responded. They have taken on faith that which many have rejected in the light of their supposedly superior judgment.

If the message of diphtheria prevention actually has not been broadcast in your community, then you are entitled to ask why. If it has, and you have not accepted, then your community has a right to ask you why. They are your children? True. You are not, on that account, permitted to let them grow up without education. You are not allowed to let them go hungry, to labor long hours for your profit, to neglect or to abuse them. Of course you would do none of these things. But all too many parents who would do none of these are allowing the menace of diphtheria to hang over their children, when by reaching out they might grasp and wield the weapon that would annihilate it once for all.

Don't Shirk Your Opportunity

The war against diphtheria is on. Community after community has declared that it will wipe the disease out. Five years has been set as the time in which such an effort can succeed. Every community effort must be focused on such a program if success is to be won. In the last analysis the outcome is up to the parents. As they get into the fray, so will the tide of victory swell; as they stay out and scoff, so will it ebb.

It is a magnificent opportunity or a dreadful responsibility, according to whether it is accepted or shirked. What is needed most is an open mind. Prejudices must be laid aside, groundless fears conquered, suspicions overruled. Diphtheria prevention is accepted, after careful scrutiny, by the medical professions of the civilized nations. It is endorsed by leading scientific thinkers the world over. How long shall its fulfilment be balked by the opposition of the uninformed or the cynically selfish? How long shall children die who might live?

Diphtheria is conquerable—how long shall it remain unconquered!

A PRAYER

Dear Lord, please make the doctor firm and kind,
Give him a keen and penetrating mind,
Broad sympathies, a hand with healing touch
For sick folk in life's crowded rabbit hutch;
Let him love people—tolerant of their ways,
And give him understanding all his days.

Endow him with reserves of strength to bear
The suffering that confronts him everywhere;
Don't let him be a callous, outward shell
Who acts perfunctorily, to make folk well;
Let him inspire a faith to calm the soul,
Gift him with inward grace, to make them whole.

—MINNIE MCINTYRE WALLACE.

Shopping for the Family Physician

By Helen H. Fortune

THE Jones family has barely been moved, bag, baggage, radio and cat, to Hodge City when Johnny contracts annoying but unmistakable signs of the measles. Now the Joneses are not well acquainted in Hodge City. Mr. Jones has been introduced to the employees of the small chain store of which he has been made assistant manager. Mrs. Jones has picked up a desultory acquaintanceship with the corner grocer and the iceman. Johnny, Eve and Jim know the first names of a dozen children on the block. But no one of the Joneses has met any physician as yet. And Johnny must have a doctor immediately.

Now Mrs. Jones is in favor of asking Mrs. Robinson, next door, whom she calls when Mary Ann is sick. But Mr. Jones, perhaps because he has been on the seamier side of the credit business so long, is doubtful. That would be, he thinks, rather too much like cashing a check for an unidentified stranger. Better policy to have the check, or in this instance the physician, certified. But how and by whom?

There are several standards that the Jones family will find useful for judging the qualifications of the physician recommended to them. Has he an M.D. from a standard medical school? Has he had special training in some good hospital? These would seem to be requirements sine qua non, yet Dr. Roberts (whom the butcher always calls) has graduated from a third rate medical school, now defunct, and has had no advanced training whatsoever. He may practice a high quality of medicine at that, and he undoubtedly has a flourishing practice. But, other things being equal, the Jones family may well be suspicious of Dr. Roberts and his famous (or infamous) pink and brown pills.

Unquestionably Dr. Green meets these minimum requirements. He is a graduate of one of the leading schools in the country and had several years of training in a great eastern hospital. So the manager of the store enthusiastically relates to Mr. Jones. True, he is no longer a member of the county medical society, nor of the American Medical Association, but there is probably some simple explanation for the severance of his connection with these organizations. Better call Doc Green, advises the manager.

Jones thanks his superior politely, but checks Dr. Green off his list. His store is a member of a national association of retail merchants, and he has entertained justifiable suspicion from time to time of certain merchandising houses that refused to subscribe to the merchants' code of business ethics. Dr. Green has a legal right to practice without connection with the organizations of his colleagues, but Mr. Jones prefers, being a stranger in Hodge City, to entrust young Johnny to the care of a man who has recognized professional standing.

For this reason Mrs. Jones blacklists also the Westside Clinic, which carries a daily ad in the Hodge City *Sentinel*, and a Dr. Forest who inserts a weekly one, and is addicted to handbills. It is legitimate for a merchant to advertise, she argues, but medical men have agreed it is not within the ethics

The Jones family has barely moved, bag, baggage, radio and cat, to Hodge City

of the profession so to do; and Dr. Forest and the Westside Clinic have forfeited the esteem of other members of their profession by ignoring this agreement.

Jones dismisses Dr. Terris from consideration for another reason. Dr. Terris does not maintain hospital connections; and while it is probable that Johnny will be ill only a few days, Jones wishes to make sure that if he does by chance need hospitalization he may obtain it without change of medical attendants. Jones has also the unfashionable idea that it is unwise to change doctors frequently, that the able man who becomes acquainted through years of service with the various members of the family and their history and constitution is better qualified to treat them than a strange man could possibly be. He knows that from time to time members of the Jones family will need hospital care, and he wishes his family physician to be entitled to treat them there.

But meanwhile Johnny has the measles.

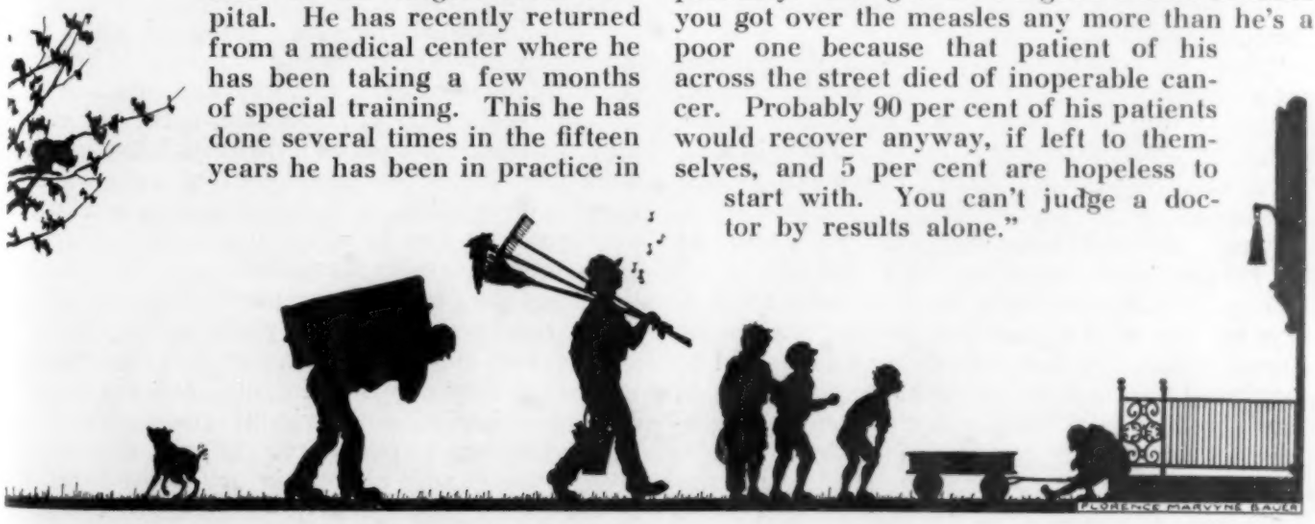
Mrs. Jones has an idea. She has heard that in many cities there are physicians' exchanges —a sort of clearing house of information maintained by the reputable doctors of a locality. Is there one in Hodge City? This strikes the businesslike Mr. Jones as a sensible inspiration, and together they search the telephone directory. There is, and of the several names given Jones by the information clerk he chooses that of Dr. Blodgett. Dr. Blodgett lives comparatively near the Joneses. He is a general practitioner who is particularly interested in children's diseases. He is a graduate of a good medical school and hospital, a member of the state and county medical societies, and of two specialized national organizations. He is on the staff of the largest local hospital. He has recently returned from a medical center where he has been taking a few months of special training. This he has done several times in the fifteen years he has been in practice in Hodge City. Furthermore, he will answer night calls if necessary.

Some of this information Jones elicits from the clerk, and some he does not obtain until much later. The medical profession has still an attitude of necromancy toward the layman, he thinks; and if the public is often fleeced by the legerdemain of charlatans the profession has its own age-old attitude of secrecy to blame in large part.

When Dr. Blodgett promptly comes to examine Johnny, Mr. Jones is keenly interested. Choosing a doctor, he determines, is at least as important as buying a new car, since it concerns the welfare and safety of his family quite as much, and perhaps somewhat the same standards apply. He likes the attitude of Dr. Blodgett—affable, but not overly genial; impersonal, yet genuinely interested in Johnny's case; concise, but not alarming. However, he is too shrewd to be sold by appearances; hence he watches closely while Dr. Blodgett examines Johnny. This he does thoroughly and unhurriedly at the bedside, taking specimens, moreover, for laboratory examination later.

Mrs. Jones is displeased because he placards the house, since it is such a light case, but Jones maintains that while it is a nuisance to them it shows Dr. Blodgett takes his responsibility to the community as seriously as that to his patient, which is another point in his favor.

In a few days Johnny is quite recovered (a distinct advantage to him since it is during vacation) and inclined to credit Dr. Blodgett, to whom he has taken a great fancy, with his early convalescence, but Mr. Jones is not so sure. "No," he denies, "you'd have been well by now if you had not received any attention at all, probably. Blodgett isn't a good doctor because you got over the measles any more than he's a poor one because that patient of his across the street died of inoperable cancer. Probably 90 per cent of his patients would recover anyway, if left to themselves, and 5 per cent are hopeless to start with. You can't judge a doctor by results alone."



when Johnny contracts annoying but unmistakable signs of the measles.

But the particular Jones family is much pleased with Dr. Blodgett at that. He seems to them to be interested in his patient, technically qualified, well equipped, competent in his examination, professionally respected and conscientious about answering or referring calls promptly. Lucky they are, and it is to be hoped they won't try a new doctor whenever Eve sprains her wrist or Jimmy steps on a rusty nail. It is not likely they will, for Mr. Jones knows it doesn't pay to change horses in midstream, and he has a notion many patients are delayed of recovery or actually endangered because they are unwilling to give their physicians sufficient time to get results. A new man on any job, Mr. Jones has found, must be delayed while he gets his data in mind and his procedure outlined.

When the Jones family discovers, as it sometime may, that Mrs. Jones is stricken with appendicitis they will not shop around themselves for a specialist, for they know little more about the medical situation in Hodge City than they did before. They will call Dr. Blodgett and trust him to call in such competent aid on consultation as may be needed. After all he knows the local doctors far better than they could hope to; and he may be relied on to obtain the best surgeon, otologist or whatnot in Hodge City for a patient that needs him. That is one function of the family physician.

It would have taken the Joneses longer to find a man adequate to the criteria they worked out if there had not been a physicians' exchange in Hodge City. Small wonder the idea is spreading! But the local hospitals might have given Mr. Jones the names of men on their staffs; the directory of the American Medical Association at the public library would have listed reputable men in Hodge City, or the Chamber of Commerce might have had information available which would be useful.

In any case, the inquisitive Mr. Jones summarizes the matter: It is seldom necessary (even though it is usual) to pin all faith on the recommendation of gossip; moreover, it is possible to apply at least as much time and intelligence to shopping for the family physician as to buying the family automobile.

How to Treat a Person Overcome by Gas

POISONING by carbon monoxide is one of the hazards of civilized life that can never be entirely eliminated, and there is grave danger that the number of fatalities will be considerably increased during the next few years, according to a report issued in January by the committee on poisonous gases of the American Medical Association.

Illuminating gas used for cooking and to some extent for heating is the chief source of fatalities from carbon monoxide. Next comes exhaust gas from automobile engines run in closed garages. The amount of gas that is discharged in five minutes is enough to paralyze a man and produce death in a short time.

When an asphyxiated person is discovered, not a moment should be lost in giving treatment. He should not be moved, or at most only a few feet. Rough handling may cause serious injury, the committee warns. Send a hurry call for the rescue squads of the fire or police department; they are trained in procedures carefully worked out by special investigators in this field.

If the victim is not breathing, artificial respiration by the prone pressure method should be started without a moment's delay and should be continued until natural breathing starts or until death is fully established. Spontaneous breathing is more quickly restored if while one operator does artificial respiration another administers an inhalation of oxygen and carbon dioxide.

If he is breathing, as is often the case even in severe cases of poisoning, artificial respiration should not be given, but inhalation of oxygen and carbon dioxide should be begun immediately. If the mixture of gases is not available oxygen should be used.

It is important to keep the patient warm. If he has to lie on the ground put coats or blankets under him. This is more important than to put them over him, the committee advises. If he has been asphyxiated in a room the poisonous atmosphere should be replaced with fresh but not cold air.

After the return of spontaneous breathing the inhalation should be continued until the patient's condition is normal. He should be prevented from making any exertion until he is entirely restored. The practice, formerly common, of making a partially asphyxiated person walk may injure the heart. After a severe but short asphyxiation, as in the case of a workman overcome by gas in a manhole or a fireman overcome by smoke, resuscitation by the inhalation treatment is often complete within an hour.

The method of treating by inhalation is based on the fact that carbon monoxide asphyxia if untreated may continue in full force for a considerable time after the victim is removed from the poisonous atmosphere. Every minute increases the chance of fatal injury to the brain or at least of a subsequent pneumonia or damage to the heart.

By C.D. Christie and E.M. Geraghty

The Diabetic Diet

IN ANY consideration of a diabetic diet it is necessary to stress the individual needs of each person. In the case of a hospital or dispensary patient, the doctor prescribes the diet in terms of protein, fat and carbohydrate and the hospital dietitian confers with the patient and finds out his food likes and dislikes and something of the dietary habits of other members of the family. Then, working closely with the patient, the dietitian interprets the doctor's prescription in terms of food suitable to the individual.

The majority of disorders that may be benefited, alleviated or cured by diet are of longer duration than the average hospital stay. The meals at home, day after day, week after week, are the telling factors in determining the continuance or nullification of the good done by physicians and nurses in the hospital.

Until recently hospitals were content and felt their dietetic responsibilities fulfilled when such patients were given good meals and bedside dietetic instruction or printed diet lists. Dispensary patients who needed dietary adjustment were given an opportunity to come to a group meeting occasionally.

The dispensary patient coming in weekly to group meetings was often "half sick." He did not see his instruction in terms of his home environment and he dragged home again with a vague idea of what it was all about and no clear plan of application to his own needs.

But if the hospital is to function best as a health center, it should prevent as well as cure and it should give attention to postconvalescent habit formation.

So, in a sincere endeavor to make its work in such cases lasting and of real benefit to the community, one hospital inaugurated a system of instruction that covers the time of the hospital stay of the patient and also continues in the home. If the patient does not need the controlled environment of the hospital but is a dispensary visitor, all the work is done through group meetings, individual conferences and home calls.

If the patient has been referred from the dispensary, his home is visited. The next day after his first visit to the dispensary, the dietitian visits the home of the diabetic patient. There she gives instruction with the equipment in everyday use in the home. After a few visits it is a simple matter for the patient or the member of the family preparing the meals to make substitutions according to market offerings and to the vagaries of the patient's appetite. This careful working with the family makes possible a reestablishment of the patient to almost complete working and earning capacity and a continuance in this condition for years barring other disabilities.

Mr. and Mrs. Kelly are an interesting couple about 65 years old. They live in three small, poorly ventilated rooms above a store in the market district. Mr. Kelly did not know he had diabetes until he was brought into the hospital for treatment. While he was in the hospital, he was eager to learn all he could about his diet. Mrs. Kelly was unable to come in for instruction and demonstrations because the streets were so icy. The dietitian told Mr. Kelly she was going out to see his wife, and he was very happy. "Mother will learn," he said; "she's a good baker. And she'll treat you good, mother will." He could hardly wait until the dietitian returned and brought him the news.

The dietitian explained to Mrs. Kelly, in her crowded quarters, that Mr. Kelly could have neither sugar nor starches.

Mrs. Kelly timidly said, "Poor father always wanted pie when he came home from work. If I didn't have pie or cake he wanted to know what was the matter with me—I wasn't doing my duty."

Mr. Kelly Is Treated "Real Good"

The dietitian suggested fruits for desserts and also the possibility of making up some pies and cookies that "father" could have. But first there must be a substitute for bread, so muffins were made. There was difficulty in washing the bran. The water pipes had frozen during the cold weather, the landlord was out of the city, would not be back until April and then perhaps he would not fix the pipes. So the bran was washed in the dish pan.

The dietitian had taken some dry bran with her so that muffin demonstrations could be given that afternoon. A tin fork, a cracked bowl and a granite pan, much too small, were all that were provided. To make good muffins the whites of the eggs must be beaten stiff. The dietitian's arms ached from her efforts with the tin fork but it was worth while when she saw Mrs. Kelly's delight over the result. There were no muffin pans, so the mixture was baked in a loaf. But Mrs. Kelly wanted the dietitian to know that money was not to be considered; anything "father" needed would be secured somehow. "Father has been such a good man to me; my first man was cruel," she said. A later visit after Mr. Kelly left the hospital showed that he was getting along splendidly. "Mother" was treating him "real good—not stinting on the butter at all." And she had bought a muffin pan. This couple have questions saved up to ask the dietitian and they show great delight to have some one from the hospital interested in them.

Mr. Tralonia spoke almost no English and the dietitian's task was a difficult one. She went to his home to see his wife but the wife worked away all day. The dietitian and the social service worker then went together to the factory where the wife worked. There they secured an interpreter and they left with the feeling of something definite accomplished. But the wife, with her scant time for homemaking, did not seem to do well with the dietary regimen for her husband. It finally was decided that Mrs. Tralonia thought her husband "looked" well and did not need special attention to diet. When she was brought to realize his true condition things improved and have kept on at a satisfactory rate. The interpreter also became interested. Her father—away in Roumania—was also a diabetic. Would the dietitian explain the diet to her and give her a copy of the household measurement sheets so she could write her father's doctor about it?

Mr. Thomas came to the hospital after he had been unable to work for more than two years. One of his neighbors, Mr. Line, left home for the hospital suffering from diabetes and other ailments, and no one expected to see him again alive. But Mr. Line went home with an understanding of his food needs and a faith that he could be much better if he would play the game. This made a great impression on Mr. Thomas, so he came to the hospital with a history of diabetes for a quarter century, a haphazard attention to his medical care (he never went to see the doctor unless he was very ill), and a lot of misinformation.

Mr. Thomas' dietetic guidance had been worse than nil. Some one told him not to eat white bread so he did not, but he ate gluten bread because he heard that was good for diabetics. He drank lots of milk, no one ever having told him that this contained 5 per cent carbohydrate. He ate no candy but he took plenty of sugar on his grapefruit because he thought the acid in the fruit would kill the sugar. He ate lots of protein. While he was in the hospital he and his wife were taught carefully the principles of dietary adjustment for diabetes. He went home some weeks ago and recently wrote: "I feel better than I have for twenty-five years. And to think that all I needed was to know what to eat."

No Tonic Permitted Mrs. Carpenter

Mrs. Carpenter is a colored patient who had difficulty in adhering to diet. The first week at home she followed her diet beautifully, made the bran muffins and decreased her output of sugar. By the end of three weeks she was so self-confident that she began to substitute foods. For the bran wafers she took graham crackers. She drank a quart of milk a day because she felt weak and had heard that milk is nourishing. She was told that she should not take more than her diet allowed. Tests made at the next visit still showed sugar, and she confessed she was drinking buttermilk.

"But the buttermilk's sour; there can't be any sugar in that," she said. For several weeks after she stopped drinking buttermilk she was sugar free. Then a visit revealed another output of sugar. "No, ma'am, I ain't eatin' nothing 'cept what you-all tells me; no ma'am." A lengthy and apparently casual conversation led up to a query about the patient's general health. "Oh, I'm feeling fine. Just like a race horse. I'm taking a tonic every day." When she was told that this "tonic" contained 10 per cent alcohol, which was probably responsible for her sugar output, she felt that the dietitian was determined to deprive her of every joy in life.

(Continued on page 272)

Mongolian Idiocy

By I. Harrison Tumpeer

Twins, 13 years old. The boy is of normal appearance and intelligence. The girl shows the characteristics of mongolian idiocy.

AMONG the mentally retarded is a group of children called mongolian idiots, who bear a surface resemblance to the Mongolian race and exhibit a varying degree of mental retardation. These unfortunates are neither Mongolian nor idiots necessarily. The racial resemblance does not withstand close scrutiny, and the mental range of these children lies more frequently within the limits of imbecility—from three to seven years—than idiocy.

These peculiar children have occurred from time immemorial. At least two artists, a Dutchman and an Englishman, had previously faithfully portrayed these types on their canvases, but it was not until 1866 that an Englishman, Langdon Down, dubbed them mongolian idiots. This classification was the first step in shedding light on the mystery, and little was added until recently to Langdon Down's original description. It remained chiefly for some midwestern observers to discover cases in the negroes and Chinese.

A Dutchman has recently given the most plausible explanation of the origin of these defectives. These data easily available to every one seem to have been grossly ignored in a recent editorial by the omniscient Mr. Brisbane who suggested that mongolian idiots were a hangover from insinuated Asiatic blood and that the product of a Caucasian and Mongolian union is a mongolian idiot. For that there is not the slightest evidence.

The mongolian idiot resembles the Mongolian in such features as the slant eyes, flattened bridge with short upturned nose, and a fold of skin leading from the upper lid to the nose somewhat crossing the lower lid, termed the epicanthal fold. There the resemblance ceases. The idiot differs from the racial Mongol in other characteristics. The hair is not usually black. The face is broad, but it is moon shaped and has no prominent cheek bones. The idiot is short and has broad flat feet.

The striking peculiarity about these children is the fact that they resemble each other so closely that placed in a row they look like brothers and sisters. Even if they happen to be of different races they resemble each other more closely than children of their own race.

In addition to the description mentioned there are many other stereotyped features. The head is bent forward, and the back of the head is decidedly flattened. The lower jaw protrudes beyond the upper, and the mouth is usually open. The tongue has a fissured appearance. The hair is fine and thin. The hand is flat and short, and the thumb is quite stubbed. The small finger is peculiar. It is usually curved inward, and its end falls somewhat short of the last joint of the adjoining finger. These children are unusually agile because their tendons and ligaments are loose. This permits them to assume the most bizarre positions with ease.

As characteristic as is their physical appearance are their mental resemblances. They learn to talk late, and then the voice is harsh and guttural. Utterance takes the form of words

or short phrases. They are incessantly active. They seem inordinately happy and smile so easily that some one has ascribed to them "a secret source of joy." They respond to music to an unusual degree, although they never become performers. Rhythm appeals particularly and apparently stimulates them to dance. They mimic quite spontaneously, and show evidences of good memory. The latter is interesting in the light of the theory that memory is the primitive form of intellect which alone seems left to them while reasoning, such as mathematics involves, is definitely wanting. They are demonstrative and affectionate. For this reason many mothers are more attached to their mongolian than to their normal children.

Physiologically they react similarly to the environment. They have an unusual susceptibility to respiratory diseases and seem never to be free from colds, discharging noses and bronchitis. As a matter of fact most of them die from tuberculosis before the age of puberty, probably as a result of this weakness. Their circulation is poor. Their hands and feet are usually cold, and they frequently suffer from chilblains. Most of the subjects die young although some attain advanced age.

How can we explain this freak? The earliest theories were woven about the idea that it was an outcropping of a primitive form of humanity, a reversion to type. However, there is no evidence that the Mongolian race was the primitive race. Furthermore, this idea is contradicted by the occurrence of mongolian idiots in the Chinese race. How can the mongolian idiot outmongol the Mongol? Furthermore, there are striking differences between the normal Chinese child and his mongolian idiot brother. One Chinese mother replied to the question how she thought her idiot differed from his brothers in this wise: "His eyes are more slitlike. His tongue is larger. His head is flatter." She also volunteered that the other Chinese children in the neighborhood as well as his own brothers and sisters realized that he was different.

Probably a Disturbance in Body Development

Less philosophical and fundamental explanations for this formation concern details such as the advanced age of the mother during her pregnancy and the rôle of syphilis. Such factors are readily discarded after a careful study of the patients and review of their histories. The most fruitful line of study has yielded the information that families in which mongolian idiots appear manifest a disproportionate number of other abnormalities such as cleft palate, harelip, extra toes and fingers, malformed hearts and other anomalies. This leads to the conception that mongolian idiocy is itself a malformation, not necessarily of one part of the body but of the body development itself.

From the fact that this abnormal product is so constant from physical, psychologic and even physiologic standpoints it seems probable that the egg is disturbed at a definite stage of its evolution from the single cell to the normal full term baby. As a matter of fact the collected data indicate that this disturbance occurs approximately at the stage of the embryo when the eye begins to differentiate; namely, about the sixth week of intra-uterine existence.

Now such factors as exhaustion of the child-bearing organs, advanced age of the mother during pregnancy, disorders of the maternal generative organs, illness during the pregnancy assume their proper place because all these factors may disturb the normal evolution of the egg. We can understand why many mongolian idiots appear late in the child-bearing period and that they are frequently somewhat premature. It is not a matter of exhaustion of the child-bearing organs because it is the rule that normal children are born after the mongolian child. It is when the mother is late in her child bearing age that she is more likely to have disorders of her generative organs.

Brisbane's Fantastic Notion

Mr. Brisbane, heralded as an authority in every department of knowledge, recently advocated the idea that mongolian idiocy is due to the fact that Asiatic blood has crept into the general circulation and has not been completely assimilated. As proof of his fantastic idea he points out his discovery that this type of idiocy is frequently found in Italy where both parents appear white. He states that scientists trace this occurrence to the Mongol slaves which he accuses Marco Polo of importing.

The merest tyro in medicine might have informed this publicist that the mongolian freak is not an evidence of the yellow peril. Why pick on Italy? The editor has missed all the references in the English. These children are found among white people all over Europe and America and have been described among the negroes and true Orientals. Later, to change his position the editor vehemently admonishes, "Question any experienced obstetrician as to what occasions birth of mongolian idiots in his practice and you will learn that Asiatic blood" has nothing to do with mongolian idiocy.

The mongolian idiot is a mentally retarded child whose development has been interrupted before birth at some point presumably at the stage of eye differentiation. He is a peculiar child, superficially resembling the Mongol, with definite physical, psychic and physiologic characteristics. He forms an important class of the socially inadequate and remains a charge on the community throughout his brief life. He constitutes from 5 to 15 per cent of all cases in institutions for the feebleminded.

MEDICAL ADVENTURES OF THE WAR

Epidemic Meningitis

By Jesse R. Gerstley

Scarlet, diphtheria and measles,
And awfully homesick at that,
Is a terrible thing to be handed,
When he likes to make sick babies fat.

CHRISTMAS EVE—and I was thinking of home. The rusty cot nearly filled my cell; I sat on it and stared at the penny doll in my hand. Tied to the doll with an inch of thin red ribbon was a scrap of paper and on the paper this crudely typed poem. The first poem I ever inspired was not a masterpiece.

The armistice! My orders to Coblenz because of a smattering of German! The brakeless ambulance, shrapnel scarred, that skidded around the shell holes and through the mud of France, between lines of rejoicing peasants in sunny Alsace, and down the valley of the Mosel grim with the cold, hunger and exhaustion of our advancing columns. And then Coblenz.

At G. H. Q. the colonel ironically suggested that I had arrived too soon. It would be months before the services of a children's doctor would be required. Perhaps they could use me in the cavalry outfit that was just coming in across the Mosel. I reported there. "Hell," roared the colonel tearing his hair, "what does a cavalry outfit want with a children's doctor? Major, are any of the young horses sick?"

Then a case of measles broke out in an outlying post of the Army of Occupation. Then another. Then more. Then a case of diphtheria. Then mumps and erysipelas. Then scarlet. All the children's diseases. Now the children's doctor was needed with a vengeance.

In the outlying Steinstrasse stood a heavy group of four or five story yellow brick and concrete buildings—a great German barracks. Our troops took this over for a general hospital. The orders came, "Take building E of the Steinstrasse Kaserne, capacity 100 beds. Make it a contagious disease hospital." With the orders came the patients, and building E was a contagious hospital.

And now it was Christmas Eve. The nurses had begged for an hour's relaxation after continual work for two days and had arranged a Christmas party. The girls found a minute Christmas tree somewhere, propped it up in a cold, damp corridor, fought with the chilly draft to light a few feeble candles and then one of them, with an unconvincing joviality, called us up for our souvenirs. Attached to each souvenir was a poem, a hit based on an acquaintance of two days. We were expected to read the hits aloud as they were given out. The uncertain light compelled hesitancy in the reading and did not add to the hilarity. Then impossible coffee and cake were served and the pitiful festivity was over.

I sat on my rusty cot staring at the souvenir but I didn't see it. The wind swishing around the window seeped into the room and threatened to extinguish the candle. What would my mother say could she see my home? Beside the cot a tiny stove radiated a suggestion of heat. Nearby was a bucket of coal, some of the coal spilled on the floor. There was a rusty iron wardrobe with my few belongings. The bed and wardrobe had been picked from the discarded mass of tables, chairs, cots, rifles, bayonets and junk in the basement. The overcoat, trenchcoat, sweater, cap and tin helmet hanging on spikes in the walls furnished the mural decoration. Where would I find a wash-basin and pitcher? How was I to make a hospital for contagious diseases? Which hall should be for scarlet, which for measles, which for diphtheria? The corridors were all open. How prevent contagion from one to another? Which should be the kitchen? The whole place was damp and chilly; where to bathe the patients? Military problems!

And then action! The corps men out in the flickering candle light were sweeping up the dirt, throwing out unusable beds, gathering the discarded German helmets, bayonets and rifles into great piles; were stringing wires for electric lights, were hammering, swearing and sweeping, hunting in the basement for stoves to combat the deadly chill. The nurses were cleaning and scrubbing, were turning old iron wardrobes into medicine cabinets, were fussing

as to which stove should be for the kitchen, were making lists of needed supplies. There had been several days of this and now it was Christmas. Surely the girls deserved their Christmas party.

An ambulance rumbled into the stony courtyard. Confused voices mixed with delirious shouting came from below. An orderly saluted. "Lieutenant, the admitting officer thinks there's a case of meningitis and wants you to come down."

"Some Christmas Eve," I muttered! I threw on my heavy coat and felt my way down into the courtyard. A sudden gust of wind threw my coat collar almost over my eyes. Across the courtyard incoherent shouts and a succession of weird shadows of giants and great animals in an endless chase guided me to the side of the admitting tent. Inside, khaki figures, ghoulish in the flickering candle light, struggled with a delirious boy.

He was about 19. He lay on a stretcher resting on two supports. An O. D. blanket thrown over him did not conceal his first division insignia. He lay restlessly on his side, his head drawn acutely back, his knees up toward his chin. In spite of the December chill and the light covering, his forehead and chest were burning. He made no response to questioning but held his hands to his head and moaned of terrible headache and pain in his back. The candle light was unendurable to his eyes. His lips and the blanket were soiled with the food he had last eaten. Occasionally he waved his arms and yelled fiercely, repeating in his thoughts an adventure in the Argonne. This was epidemic meningitis!

Where should we put him? This inflammation of the membranes lining the brain and the spinal cord was the most dreaded of all the diseases and was contagious too. In the attic on the fourth floor there were as yet no patients. A cot was found somewhere, a pitcher of water, a basin. The nurses cleaned the patient. I prepared to do a lumbar puncture; between the bones of the back a needle is inserted to get some of the spinal fluid for examination. Usually this means the use of sterilized rubber gloves, face masks and antiseptics. There were none of these. Just a little iodine to disinfect the skin over the spine and a bit of cotton! As a part of the regular supplies we had a small supply of antimeningococcus serum, the serum of Flexner and Jobling of the Rockefeller Institute, the serum which has meant to epidemic meningitis what antitoxin has to diphtheria.

The patient, semi-conscious, must nevertheless be held quiet for the lumbar puncture. The few ward men were soft-voiced, big eyed boys from Texas and Georgia, boys who had been wounded and sent to our organization for light work. They had faced German bullets with equanimity but this new situation filled them with terror. The few nurses on duty were held at bay by the delirious boy. Finally one fellow volunteered. He had been an undertaker's assistant. He did not fear death and he was strong. With his help, the needle was inserted and a thin stream of cloudy spinal fluid trickled into the test tube. The diagnosis was certain.

What would my mother say could she see my home?

As the nurse opened the cardboard package containing the serum I casually noticed that this was antimeningococcus serum manufactured by a large pharmaceutical company. Following the inoculation the soldier became quiet and fell asleep.

Long after midnight I returned to my cot. At six in the morning another patient arrived; at noon another and at ten that night another. Meanwhile the first soldier was not so well.

Lumbar punctures were repeated; more serum injected. The serum did not seem to be having the usual effect. The delirium remained unchanged. At times he became quieter and his voice dropped to subdued muttering. Then he became violent again. More lumbar punctures and more serum injections. He sank into deeper and deeper unconsciousness, his pulse became slower than normal, faster after a treatment, then slower again. His body grew more and more rigid. It was impossible to arouse him. It was impossible to feed him except with a stomach tube. In a few days more he died.

Meanwhile more patients arrived. The orderly and I were so busy with the punctures that there was time for nothing else. We scarcely left the attic. There was no time to pay more than the most superficial attention to the scores of other patients. Night after night as I fairly staggered across the courtyard to my cot, the rumble of an ambulance and delirious shouting outside my window called me back to work.

Blessed odor of cognac! Who could blame him for trying to forget?

Those weeks (or were they only days?) developed into a horrible nightmare. There were more cases than we could handle, more lumbar punctures than any one man could do. At that time—the very beginning of the period of occupation—there were few doctors in Coblenz trained in contagious work. Worst of all, work as we did day and night, nothing seemed to influence the course of that disease. Utterly unaffected by any form of treatment, patient after patient went to his death. Reports came from other camps that injections of serum into the spine were not sufficient and that additional serum should be given into the veins. This also was done but without a suggestion of effect. Perhaps the treatments were not being given frequently enough. They were given more frequently but still without effect.

The nurses came and went but my ward man and I stayed on, keeping ourselves awake with midnight coffee and innumerable cigarets. In the ward I worked without coat, Sam Browne belt and insignia of rank. I even dared roll up my sleeves. It was the only time in my experience that such lack of uniform was tolerated by a superior officer.

In one bed lay a boy fighting his last fight with the Germans. Next to him lay one who must have been an experienced card player. In his delirium he played poker and won great pots with five and six aces. Another simply yelled and swore at the pain in his head. One boy in a fit of delirium got up and jumped over two or three beds, to the utter terror of the corps men. And who could blame them, for to have meningitis at that time meant death? As they passed the entrance to the ward their faces told the story. And it wasn't a superstitious fear either. It required the sternest discipline to get them to enter and then they were worthless, all except my ward man.

Reports came from other camps, from the British down the Rhine at Cologne, from the American camps way up the Mosel toward Trier that epidemic meningitis was proving uniformly fatal. Two British officers came to our hospital. They never "believed much in the serum any way. Anything good that came from the serum treatment was due simply to the lumbar puncture which let out the pus, but the serum itself was useless."

All of us had seen good results with this very serum at home. And still our patients died.

A captain had just come from a "leave" back in France. He told me that he had heard that at one French hospital a few patients had recovered. Grasping at a straw I wrote there. No, their treatment was not different from ours. They did lumbar punctures twice a day. Yes, they used the serum, the serum supplied by the Pasteur Institute of Paris.

Could it be possible that their serum was better than ours? Not likely, for ours was put up by a reliable manufacturer. Without hope I mechanically requested our medical supply officer to order some of the French serum. The inertia of the army officer had to be overcome. The C. O. thought it absurd to suspect that a foreign product might be better than our own. In due time a carton of antimeningococcus serum was sent to us by the Pasteur Institute.

The carton was labeled in French "manufactured in 1918." The package was opened, a lumbar puncture was done, rubber tubing attached to the needle and a nurse poured the contents of one bottle into the receptacle from which it flowed by gravity into the spinal canal. How we hovered over that patient! How we hoped against hope! But to no avail. Another death from epidemic meningitis was reported from the contagious hospital of the Army of Occupation at Coblenz.

An ambulance rumbled in the stony courtyard. Confused voices mixed with delirious shouting came from below.

The weariness from lack of sleep, from the hopelessness of our efforts, from living day and night in that attic with suffering and death began to affect us. And night after night came the rumble of the ambulance.

My invaluable ward man complained of not feeling well. One day I was mechanically doing a lumbar puncture when he suddenly let go the patient, clasped his hands to his head, reeled to an empty cot and shrieked, "I've got it, Lieutenant; I've got it." That cry climaxed my desperation. Dazed, I left my unconscious patient and rushed over to my helper. What a blessed odor of cognac! Poor boy! He had seen so much! Who could blame him for trying to forget? Who could send such a case to the guard house? A few of his comrades fearfully hustled him out the side door to his quarters where he had the long deep sleep that he merited.

What next? The nurse in charge of the ward approached timidly. "Lieutenant, I've been going over all the serum in that French package. All the bottles have small labels of 1918 except one. That's labeled 1917. That's the one you used! Do you suppose that might make a difference?"

Why not try? We tried a bottle of the 1918 serum. Following the first injection the patient was a little better. That meant nothing. Following the injection the next morning he was still better. Another injection and he regained consciousness. His fever fell. His headache was gone. After a few more injections he was well.

The success brought tears in our eyes. The same for the next and the next and the next—100 per cent mortality changed over night to 100 per cent recovery. There was no change in the treatment; only change in the serum and this was given into the spine as before. It was not even necessary to inject it into the veins.

Winter was passing. The ambulances continued to rumble into the courtyard, but the dread disease was shorn of its power. Under treatment with our remedy it had become no worse than an ordinary ailment. At last we could sleep.

The results of this change of serum were so striking that they could not be overlooked. What was the cause? It seems simple now but then we did not know.

Epidemic meningitis is caused by a germ called the meningococcus. Under the microscope, all meningococci look alike, but with other methods of examination they show differences. There are a number of these different

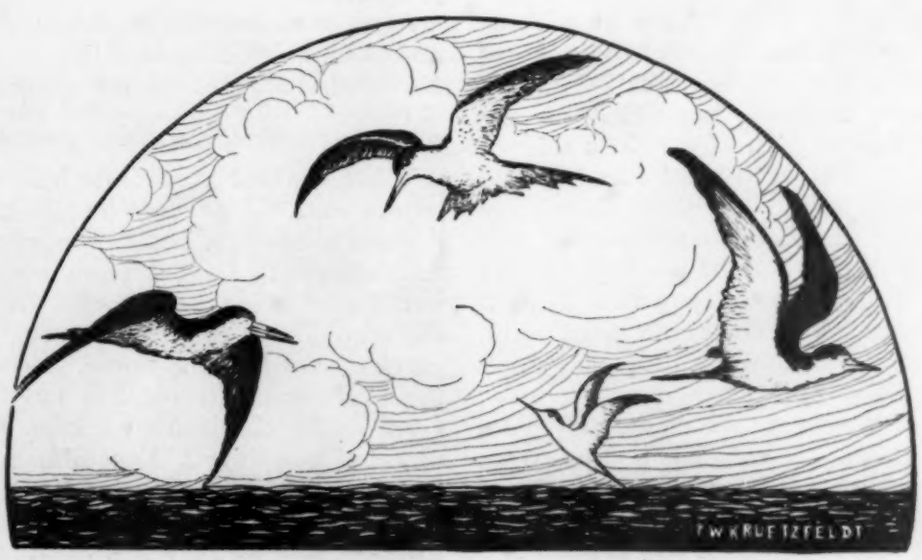
races, or so-called strains, which show slight variations in the test tube. Now when we took specimens of these different strains from each of the stock test tubes and mixed each one with the American serum, in every case the meningococci gathered together in such clumps that they made the fluid cloudy. When so agglutinated the meningococci are harmless. But when we tested the American serum against the meningococci that were cultured from the spinal fluid of our boys at Coblenz, nothing happened. The serum that was so effective against all the strains of meningococci supplied in our stock cultures was utterly ineffective against the particular strain of meningococcus that flourished in that area. Apparently there are racial differences among meningococci just as there are among human beings.

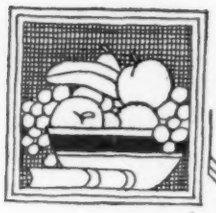
The French serum agglutinated not only our own specimens in the test tube but also the organisms found in Coblenz. So the difference between 100 per cent mortality and 100 per cent recovery was due to the fact that this one particular strain had not been concerned in the manufacture of the American serum. As the epidemic diminished in severity we took time to get specimens of other American serums. The physician in the laboratory, Captain Robison, found that the serum of the Rockefeller Institute, that of the New York State Board of Health and that of certain commercial firms were also effective against this strain. Unfortunately the desirability of including every possible strain in making the serum had not been thoroughly understood. Since then it has been learned that some serums may agglutinate meningococci and for some unknown reason still not cure the disease. But one thing is certain. If the serum does not agglutinate the organisms, it is valueless.

The epidemic of meningitis ended. Spring came to the valleys of the Mosel and the Rhine and summer brought a permanent peace to war-torn lands.

Again epidemic meningitis is with us. Starting in the teeming centers of the Orient, it has slowly crept eastward. Following the lines of transportation, it found new victims in the Philippines, then California, then the western states, and now in the Middle West and East. The central states are beginning to feel its full force. In New York it is just appearing. The disease shows unusual virulence. The mortality in Indianapolis has been exceedingly high. Evidently a new strain of organism is at work. Treatment so successful only ten years ago is now powerless. Already great laboratories are working night and day to adapt the serum to this familiar and yet new enemy.

For centuries the great nations of earth have battled with each other for gold, for land, for glory, for power. But there is a nobler warfare waged continually, the warfare of mankind against disease. No sooner is the microscopic enemy conquered than it returns with added vigor in a new disguise. As the centuries roll by, an ever increasing army, the army of the men of science, silently, courageously, has engaged in the greatest conflict of all, the conflict that never ends.





Breakfast at School

By Nellie Gustin

THE school breakfast idea developed after we had made a habit study of the malnourished children in five elementary schools of Cleveland. In almost every case the child's breakfast was found to be inadequate. The coffee and cakes breakfast was the most popular, although in some of the so-called better homes breakfast consisted of a glass of milk.

In talking the matter over with the mothers I found that a large percentage of these children retired at a late hour and got up late in the morning, thus having little time in which to create an appetite and to eat a proper breakfast.

The midmorning milk lunch had already been instituted to supplement the poor breakfast, and while it has been of great value in tiding the child over after the stimulating effect of the coffee has worn off and has made it possible for him to work better, yet the evil of the insufficient breakfast still exists.

Learning to Eat Proper Foods

A special educational effort was made to build attitudes in favor of eating certain foods for breakfast.

Lessons were taught on the value of milk as a source of lime or calcium for building bones and teeth. Many of the children recalled having seen ground-bone fertilizer sprinkled on the grass to make it grow. Their previous science lessons on plants helped them to understand how the grass takes up the lime through its roots and stores it in the blades; thus the child sees that the cow in eating grass obtains lime for her milk. This is a simple way in which to help the child understand why he should drink milk. It also gives a good reason for eating leafy vegetables. After they had learned what milk, cereals and fruit would do for them, they were eager to eat them. Breakfast menus were planned by the children and made into an attractive booklet as a gift to the mothers.

Considerable enthusiasm was aroused when the children learned they were invited to a breakfast party at their own school.

At first it seemed like a big undertaking to serve forty children in the classroom. The amount of work, however, was minimized by careful planning. Each child was asked to bring ten cents, a sauce dish, a bowl and a spoon. Two sixth grade girls assisted by doing the marketing and by helping to prepare the oatmeal and prunes under supervision. This was done the day before the breakfast was served. In the morning they helped make the sandwiches and reheated the oatmeal.

Each child was instructed to set his own table. Two paper napkins were given them, one of which was to be used as a table cloth for his desk. When the dishes had been arranged, printed menus in artistic folders made by another class were passed. The milk bottles were opened, straws inserted and one was placed on each desk, the older girls acting as waitresses. The prunes were served. Then the oatmeal was passed with brown sugar and milk on it, thus eliminating extra service.

This motivated a lesson on table etiquette and afforded an excellent opportunity to put it into practice.

After breakfast the children washed their own dishes and dried them. The assistants washed the two kettles and the work was finished.

Parents Show Interest

When several breakfasts had been served in school and the parents had learned how little it costs to serve a health breakfast, they began to cooperate. Letters from interested parents and information volunteered by those visiting the school have convinced us that this work has carried over into the home. In many instances the classroom teacher has noted an improvement in the children's work as well as in their physical condition. Vegetable luncheons have been served in an effort to create an interest in vegetables. I believe that through this work a foundation has been laid for greater success in the future.

Are You Losing Your Hair?

By Sigmund S. Greenbaum

HOW many really realize the enormous sums of money spent on hair cultivation, tonics and so-called hair restorers? At least 50 per cent and perhaps more of young men, before 30, show distinct evidences of beginning baldness.

Falling hair depends to a considerable extent on the condition of the scalp. One can hardly discuss the care of the hair without discussing the care of the scalp, which is to the hair what the soil is to the plant.

The many popular but frequently false beliefs concerning the hair, such as the value of singeing hair, shaving the scalp after an illness, application of hair restorers and cutting hair to produce more rapid and stronger growth, make it important to state briefly what the scalp is, what hair is and how hair grows when in a healthy state. One must become acquainted with the normal before one understands the abnormal.

After the head is once bald, all the tonics in the world will not restore the hair.

The scalp is the covering of the skull. The entire skin with a few exceptions is covered with variously sized hairs and all have the same structure. The scalp hairs are different only because they are more closely placed, thicker, longer and more numerous. One need but think of the scalp then as normal skin studded with hairs and constantly desquamating cells.

The actual composition of hair is in no way different from that of the nails of human beings or the horns of cattle except that whereas the latter are hard, because of massiveness, hairs are soft, pliable and supple, because they are threadlike. Hairs are composed of the same elements that go to make up the scarf skin, or epidermis, but the individual elements are arranged differently. Hair is, therefore, nothing but a solid horny cylinder or thread, a cross section of which is more often a flattened oval than round. The flatter the oval the curlier the hair. Every hair has a bark, or cortex, and a marrow, or medulla. The medulla contains no canal, for fluid does not circulate in the medulla of a hair.

Hair has been divided into a shaft, which is its visible portion; a root, which is in the scalp and fits into invaginated portions of the scalp called follicles; and, lastly, a bulb at the bottom of this hair follicle, which is in direct relation to that which gives it birth and nourishment—the hair papilla. An oil gland is always part of a hair follicle; this oil, or sebum, tends to keep the hair soft, shiny, pliable and healthy, unless it becomes excessive. When a hair falls or is pulled out, a new hair takes its place. The formation of the new hair begins at some point deep in the original follicle, provided of course that that follicle has not been severely injured.

Hair is in reality a secretion. This special secretory function of the scalp may be attributed to a particular part of the scalp, the hair papilla. All these papillae, and consequently the hair follicles, are present at birth. It is doubtful if new follicles develop once a child's hair has matured. Advertisements guaranteeing a product to regrow hair on bald heads must of necessity guarantee to put new papillae and follicles into the scalp. This would be analogous to putting new eyes in the sockets of the blind or new ears on a shucked corn stalk.

Like the fur of animals, hairs are not permanent fixtures, but unlike the seasonal periodic loss of the fur of animals, human hair loss is continuous but practically unnoticeable. The span of a hair's existence is from two to six years. Hair grows from its root up, so that if the shaft is cut, broken or injured it never repairs itself. Thus anything one may do to the damaged shaft will not alter the functions of the papilla which gives it birth. Cutting and recutting or even shaving scalp hair does not decrease or increase the activity of these deep cells in the hair follicle. Cutting the hair, certainly the

scalp hair, does not influence its growth. Comparison is often made by the barber between the pruning of trees and the shaving of the beard, but plants and trees grow from the point and not from the root as does the hair.

Many girls have the mistaken idea that cold cream causes increased hair growth. This it does not do. Hair grows from about one eighth to three eighths of an inch a month and whether it is cut every day or never will not modify the growth rate. It has a certain natural length for a man (from 6 to 8 inches), and a natural one for a woman (14 inches or more).

The development, fall and regeneration of hair goes on constantly and regularly in the normal scalp. What determines this entire process is not known, but it is in all probability closely connected with the internal secretions. This is shown by the differences in hair development in the boy and girl before and particularly after puberty. The relationship to sexual secretions is certain. Furthermore, although the eunuch never grows a beard, he never becomes bald; on the other hand, the woman past her childbearing period often develops marked growth of hair on the face and the beard normally develops in boys shortly after puberty.

Diseases of the scalp are greatly influenced by age. Certain infestations, such as lice, and infections of the scalp almost always occur only in children. Dandruff, or scurf, develops after the age of 15 and continues through adulthood. Bald infants are a rarity, but baldness, due to rubbing, often occurs on the back of their heads. Baldness, on the contrary, almost always begins in early manhood when virility is greatest, but it is rare to see a bald-headed woman. Certain diseases of the scalp in children cure themselves with the onset of puberty. Lastly, hair is often beautiful during pregnancy. All these facts point to the close relationship between the sexual life and the physiology of the hair.

The hair serves two purposes: it is protective and it is ornamental. Hair protects the head against cold and injury but to most persons its more important aspect is its attractiveness. Because every one admires and would like to possess a nice head of hair, the care of the hair is an age-old problem. It is said that woman's hair is her crowning glory, and every man is vain enough to desire a good head of hair. It is hard to imagine a bald-headed woman and even some bald-headed men being the objects of emotional entanglements.

Most persons realize the ornamental value of hair only when its loss becomes noticeable. Unfortunately they wake up a little too late for any knowledge about the real care of the hair and the scalp to do them good. This error is more common among men than among women. The knowledge that the cure of baldness is largely its prevention should be spread to those who still have a healthy crop of hair. The most one can expect, once there is partial baldness, is to retard the fall of the remaining hairs.

The object, then, of good hygiene of the hair and scalp, aside from cleanliness, is largely one of preservation and beautification of the hair itself. Good hygiene involves consideration of combing, brushing, shampooing, massage, fresh air, hats, soaps, tonics and so-called hair beautifiers, such as bobbing, curling, dyeing, singeing and bleaching.

The care of the scalp properly begins at birth. One of the commonest superstitions with respect to the infant's scalp concerns the so-called milk crust. If this is removed, according to the superstition, dire trouble for the infant will result. Nothing is farther from the truth. These milk crusts are nothing but desquamated scalp cells, dirt and a few fine hairs glued into one variously sized concretion by dried scalp oil. Desquamation of cells from the skin and naturally from the scalp is a lifelong process. Germs grow best in dying and dead organic material such as this. Therefore, if these milk crusts are not removed, they commonly act as the nest in which are hatched disease-producing germs. There should be no hesitancy in removing them with warm olive oil soaks followed by a mild soap and water shampoo.

Singeing the hair is one of the most laughable hoaxes ever perpetrated on the gullible male.

The object of the comb is to arrange and separate the hair, while that of the brush is partly to arrange the hair but mainly to brush out dirt and scales from the scalp and incidentally to polish and give luster to the hair. A thorough brushing of the hair is in a sense a form of scalp massage.

The most important thing about comb and brush is that there should be strict individual ownership. They ought never to be lent to others, unless they are sterilized beforehand. Dandruff is frequently spread by barbers whose unsterilized combs are used on one patron after the other. Just what favors the development of dandruff in one person and not in another is not exactly known, but this means of transference of the disease must be considered in the susceptible person. With the reintroduction of the

bobbed hair style, it is not uncommon for girls to allow their friends to use their combs. Many of the germs on such combs can be killed if boiling hot water from the handy spigot is allowed to run between the teeth for from two to three minutes.

It is surprising the number of persons that use combs as scratchers. If a scalp itches, it is diseased and requires attention. True, scratching gives relief, but combs are not made for that purpose and scratching injures the scalp and opens up roads for the entrance of germs.

The shampoo is necessary for the maintenance of a clean scalp. The frequency of a shampoo varies with the individual's occupation and scalp condition, though once in two weeks is a safe rule for the normal scalp in both men and women. To keep the boy's hair clean it may be necessary to wash it even daily with soap and water. Contrary to a widespread belief, water does not injure the hair nor does it cause loss of hair. To keep the girl's hair clean brushing should be done once or twice daily whereas the washings should take place only once every two or three weeks. Long hair can definitely be injured by too frequent use of soap. As a rule, scalps are largely soiled by their own secretions and cell desquamations, for the cleansing of which the shampoo is indicated. Brushing usually takes care of the dust collected by the hairs. In shampooing a girl's head, especially when because of disease this is a frequent requirement, it is not necessary to soap both scalp and hair. The thick lather of soap should be rubbed into the scalp with a small brush and not much should be spread onto the hair. Thus the benefit of the washing is obtained without its inconvenient effect on long hair.

It is difficult to tint fading hair artificially so as to match the general coloring.

Soaps are necessary to proper cleansing of a scalp, but excessive unattached alkali in soap is injurious to hair. The less alkali in a given soap, the less harmful that soap is to hair. However, in men it makes much less difference than it does in women. In women the hair is long and usually several years old. The oldest part, particularly if there have been many washings or even a few with a strongly alkaline soap, will show various changes, such as loss of color and brilliancy, splits at the ends or along the hair shaft, and fragility. In combing and brushing such hair, small pieces will break off so that the woman often thinks the hair is not growing when in reality it is merely made shorter with each dressing. It is not therefore an actual loss of hair. Repeated soaping makes long hair brittle. Experience shows that a woman who is losing her hair as a result of dandruff will lose much more if the hair is often soaped than if it is not.

Massage may be accomplished with a variety of agents, although the fingers and vibrator are the most convenient. All these have for their object the stimulation of the peripheral circulation and the bringing in of a larger supply of blood to the part massaged, thereby arousing the parts to increased activity. Any one who will rub or massage his scalp for five minutes will be surprised at the sensation of scalp comfort it engenders. A finger massage at bedtime and on rising in the morning is deemed beneficial to the scalp and, naturally, to the hair.

Airing the hair removes the odor from the rapidly decomposing scalp secretions and particularly the sweat. The air likewise aids evaporation of this secretion.

Although sunlight tends to bleach the hair, its beneficial effects upon hair growth have been demonstrated experimentally. Artificial sunlight in the form of ultraviolet radiation is now largely used in the treatment of falling hair.

The popular belief that men's tight hats have a harmful effect on the hair, even causing loss of hair, has no foundation in fact. It is merely a belief based on the supposition that hats interfere with the circulation of the blood to the scalp. There are at least two arguments against this theory. In the first place, there are many bald-headed men who have worn a hat on an average of no more than one-half to one hour daily before baldness developed. In the second place, with the tight hats women have been wearing in the last few years, there would be among women a large increase in the type of hair loss commonly found in men. This has not been the case.

The worst that can be said about hats, and particularly tight ones, is that they are heating, increase scalp perspiration and scalp odors, and are therefore not particularly hygienic. Since modern custom demands the wearing of hats, there should be no hesitancy in wearing them but they should be light and well ventilated.

The term hair tonic is a misnomer. A tonic refers to something that will invigorate or stimulate but stimulation to a hair must come from its papilla. The proper term is scalp tonic, and scalp tonics act in the form of a chemical massage in contradistinction to physical, mechanical and electrical massage. There are forms of hair loss in which it seems that stimu-

lating applications to the scalp appear to hasten regrowth, but only in those instances in which the hair papilla has not been permanently injured.

Analysis of many so-called hair tonics and other proprietary hair preparations reveals the fact that they are but resurrected formulas used by older physicians. The claims for many of them are distinctly misleading and false. For the common type of baldness all these hair restorers are useless. One might just as well try

Tight hats do not cause baldness, else the modern woman would be bald as some men.

to grow hair on the palms and soles as on a scalp of that sort.

Hair beautifiers are properly termed cosmetics. Health begets beauty and cosmetics show to better advantage in the presence of good health. Among the so-called hair beautifiers are dyeing, bleaching, singeing, curling and bobbing.

Dyeing the hair may lead to a number of untoward complications. Many hair dyes contain chemical compounds of mineral nature. Such chemicals are decidedly injurious to fine hair but probably of little harm to coarser hair. Some of these advertised "safe and harmless" proprietary dyes contain such metals as arsenic, copper, lead, silver and mercury. In addition to their actual effect on fine hair, they may be absorbed into the body and produce chronic poisoning. Certain coal tar dyes, especially, may cause a severe inflammation of the scalp and adjacent skin. This may follow the first application, but it may not develop for five or more years after the person first starts its regular monthly use.

The clumsy application of a hair dye is exceedingly disfiguring; even the most artful application is rarely a success. The hair corresponds with one's general coloring and it is most difficult to tint fading hair artificially so as to match the general coloring. If dyeing hair is a necessity, a vegetable dye, such as henna or walnut, is preferable. With the fashion of bobbed hair, dyeing has become much more common. In the selection of a dye, the dangers just enumerated must be considered.

Bleaching likewise has injurious effects on the hair unless the mildest bleaches, such as lemon juice, weak peroxide or vinegar, are used. Strong peroxide and ammonia cause the hair to become dry and lusterless. Sooner or later the hair splits, cracks and breaks off in pieces of varying length.

Singeing the hair is common cosmetic practice among barbers. It is one of the most laughable hoaxes ever perpetrated on an unsuspecting, ignorant and gullible male and more recently on the boyishly bobbed female. In most instances the barber himself is honest about the matter and is convinced of the saneness and value of singeing. He has been led to believe that if the ends of the cut hairs are singed, the nutrient fluid will be prevented from escaping. Human hairs are solid threads and grow by superposition of cells. The purpose, therefore, for which singeing is advocated, is based on false premises.

Hair curled in the presence of excessive heat or in the absence of heat-resisting wrappings will become dull and brittle. However, as performed in the best shops today, curling and permanent waving are harmless and particularly if borax, bicarbonate of soda and such alkalis are avoided or their ill effects counteracted with oils.

When done at home, paper or wire curling is preferable to the electric curling iron unless the electric curler is used infrequently and with great care.

Should hair be bobbed? A categorical reply cannot be made to this question. It depends on the person, age, general appearance, presence or absence of scalp disease, facial contour and even occupation. There can be no question concerning both the sanity and the sanitary value of bobbing the hair. But hair is an adornment and both saneness and hygiene must take that into consideration. What a ridiculous figure the mother, 45 or 50 and older, cuts with hair not only bobbed but dyed! What can be more sensible, however, than bobbing for the woman working in a dust-laden atmosphere or even the working woman in general?

Split hairs are easily remedied by frequent use of warm olive oil and the avoidance of soap and hot curling irons. A normal scalp, the hair of which has never been abused with soap and water, bleaches, so-called tonics and hot curling irons, rarely shows excessively dry hair. It is far commoner to see hair that is too oily. The physician frequently has patients who complain that the hair is dry but, on examination, he finds plenty of oil on the scalp. Dry hair may be lusterless and ugly but it is solid and healthy, provided the dryness is not due to any of the

factors just mentioned. Oil shampoos and greasy applications to a normal scalp are in a general way bad practice: greasy hairs collect dust and dirt quickly and, aside from the fact that they soil the brushes, simple brushing is rarely sufficient to clean such grease-coated hairs. The person with dry hair may apply an oily mixture in small amounts directly to the scalp and not to the hair.

Excessively oily hair is much more common than excessively dry hair. Oily hair is the result of an overstimulation of oil glands. It is not healthy looking or pretty; the hairs have a flattened appearance and collect dirt easily. An oily scalp may result in a serious loss of hair. The condition is rebellious and requires persistent care. There is no better treatment than the use of soap and water, since internal medications are of no avail.

Dandruff, scales or scurf usually begin on the scalp of children between 10 and 15 years old. That this scurf does not merely represent the ordinary cellular desquamation is seen by the fact that it is resistant to simple hygienic precautions and constantly redevelops shortly after a shampoo. The scales are at first dry but if the scalp is untreated they become a definite scalp fixture and instead of falling on the shoulders become greasy and stick closely to the scalp. In other instances they remain apparently dry for many years, although progressive hair loss is apparent, but even these scales if closely examined will be found to be definitely greasy. By the twentieth year there is beginning loss of hair which becomes more marked from year to year. Later the scales are almost absent.

Sunlight may bleach the hair but it stimulates hair growth.

Since dandruff appearing around puberty is the first stage of a certain form of hair loss, the importance of treating it is evident. If a person has not begun to lose his hair by the thirtieth year, the chances are it will not occur from this condition later. All loss of hair between the ages of 17 to 25 is serious and is usually progressive.

Scales in dandruff contain millions of a germ that is difficult to destroy without injuring the scalp and hair, but the germs can be made to disappear for a time. Unless treatment is persisted in, they rapidly recur. Systematic hygiene keeps their numbers and their ill effects down to a minimum.

Many adults have the mistaken idea that the scales of dandruff are dry, when in reality they are greasy. As a result of this mistaken idea they constantly apply greases to the scalp, which increase the damage. Besides they often apply it to the hair, an utterly valueless treatment even if these greases did help the scalp. Soaping a greasy scalp has a double effect: it cleans and stops loss of hair. If between two shampoos, hairs continue to fall, the shampoos should be more frequent. By this means alone a woman can for years reduce or entirely stop her loss of hair. Scalps from which the hair has been falling abundantly for a long time should be washed twice weekly.

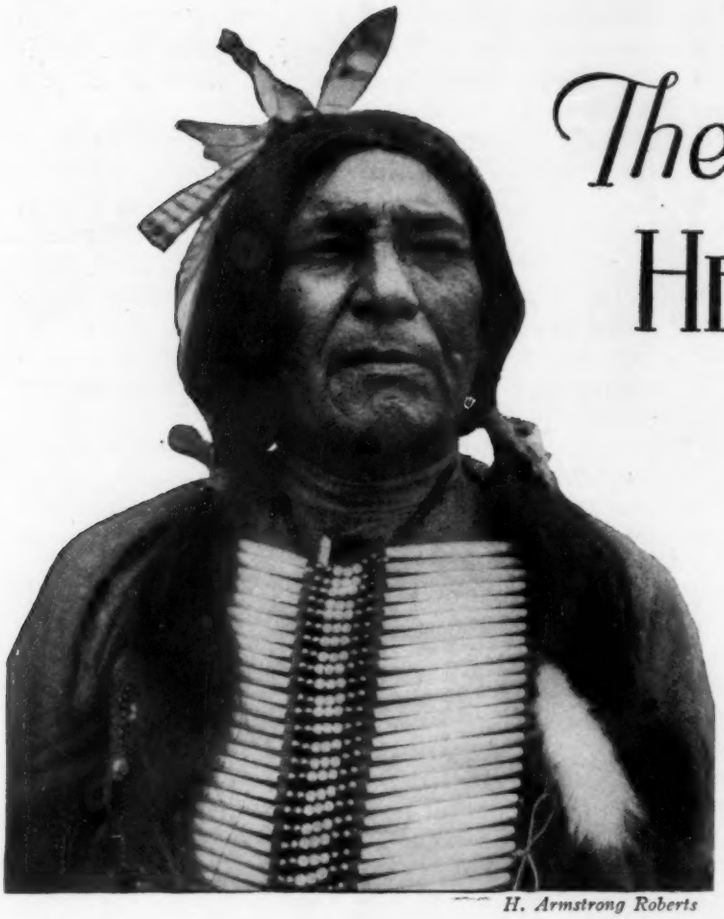
Baldness is often a preventable disease. Falling hair is natural; it is abnormal when the fall is excessive, indicating that it is exceeding regrowth and that baldness will sooner or later follow. The biologic laws governing normal hair growth and hair loss are not well understood. Whether it is merely a question of blood supply to the hair papillae or whether it is influenced by nervous impulses is not altogether clearly defined.

Loss of hair is not always due to the same cause. When it comes on suddenly it is usually not permanent. Some cases are inevitable and cannot be helped. When a person is losing hair over a period of several years, it is usually associated with a greasy scalp or dandruff.

Every one is familiar with the loss of hair occurring during and after such serious illnesses as scarlet and typhoid fever. In the great epidemic of influenza, in 1918, thousands of persons were affected later with loss of hair and the not infrequent case of grip today is often followed by loss of hair. These fever types of hair loss are rarely permanent. On the other hand, the hereditary and senile types are inevitably progressive and are permanent in effect.

The dandruff form of loss of hair begins between 17 and 25 years of age and that is the time to start treatment. In no other condition is the statement "prevention is greater than cure" truer; because, untreated, the head will surely and inevitably become bald. In these types, many persons are afraid to brush and shampoo their heads because they see more hairs fall with each brushing. But the truth of the matter is that they are only brushing out detached hairs and shortly these are all out.

There is great need for educating the public regarding the prevention of falling hair.



H. Armstrong Roberts

The Indian's HEALTH HERITAGE

By M.R. O'Neil

Before the white man's coming, the Indians were not only a healthier but a happier people than are we.

IN THE heart of the Kongo a brilliant Frenchman, who was traveling recently through French Equatorial Africa collecting data for his government, set himself down and wrote this line: "The less intelligent a white man is, the more stupid he thinks the black." There is food for thought in that simple statement.

The remark applies with equal pertinence to our own aborigines, the American Indians. Facts more often than not fail utterly to accord with the naive notion in vogue among us that primitive peoples are stupid. Such is far from the case, even when we consider one of the lower orders, such as the "Digger" Indians of California, whose general rudeness of culture marks them as the most primitive on the list of North American redskins.

To confuse crudeness with stupidity, however, points only to our own lack of perspicacity. In the field of native doctoring, for instance, we have learned a startling thing or two. Centuries prior to their contact with Europeans, the Indians of the Missouri River region were making their own syringes, "an animal bladder being used for the bulb and a hollow cylindrical bone, as the leg bone of a prairie chicken, turkey, goose, or other birds, was used for the tube. The bulb was attached to the tube by sinew wrapping." It was for rectal injection in obstinate cases of constipation.

It will pay us to take a look at the American Indians as they were, free and tireless, strong limbed, clear eyed, lithe and physically fit. What were their secrets?

The sun was one—that selfsame sun that today seems just to have been discovered. The Indian took his sun religiously; but he took it, knowing its worth. The sun was to him the Great Father.

> O my Sun Father, may all my children
> inhale more of the sacred breath of day . . .
> Here sit down; here remain; we give you
> our best thoughts . . .
> We inhale the sacred breath of day.

Yätokĭa, the sun was called among the Zuni: the giver of light and warmth, and through the supreme bisexual power (A'wonawil'ona), the giver of life.

Exercise—rather, let us say, sufficient exercise—was a second secret of the Indians' health. Their hunts, their dances, their long walks, their games (for they had many) kept them active enough, notwithstanding the popular belief that the Indian for centuries merely sat on his rump, grunting and wrapped in scarcely more than eternal indolence.

A simple diet was a third factor. Linked with this was the Indian's ability not to be a glutton. For even when the hunt had been successful past dreams, when the fish-catch had been enormous, and when the acorn trees and the berry

An Indian basket with a design modified from the human figure.

A Chemehuevi basket with tree and leaf design.

bushes had been more than ordinarily generous, the Indian maintained a sound respect for the health of his body and over-indulgence was taboo. Yet how many of us today take the extra helping of pie, the fourth doughnut, the fifth drink?

From my own reserve of experiences with these people I give the following incident, apropos of the fate of a gourmand. It was in northern California far up the Klamath River in the thick of the forest country and the mountains. It is an Indians' land there still, remote and brooding under the sun. This day we had walked up Red Mountain. Chamook was my guide, a superb specimen of young manhood, muscular, lean, tireless, and agile as a gazelle.

At dusk after the hard climb we reached the river bank again. His wife, a gracious and graceful young Indian woman, and though the mother of five children still with an air of extreme youth and well-being about her, had prepared us a supper of eels. Sliced and cooked, Indian fashion, over the embers they are irresistible. The menu was varied with hard Indian bread, fresh berries and a native tea they make from certain leaves found in the mountains. It is very good. I was famished and fell to. The portions of eel were my particular delight and I kept right on munching.

"You will be sick," Chamook said quietly at last, reaching out his hand to touch my own that had reached for another fragment. And he explained: "Eel too rich. The Indian is careful. Long walk make tired. Eat not too much."

I was indeed sick, several hours later. In short, the gourmand pays, and the Indian knows it. Therefore, he is not a gourmand. But do we follow the rule? Not as often as we should.

So we see clearly enough that self-restraint was another of the Indian's secrets of health. For every mother's son of us knows that for the little exercise we get in these days of motor cars, elevators and other transportation facilities that rob us of the sturdiness of our limbs, we eat too much. We suffer for it and end up by going dizzily to the medicine chest for a purgative or to the doctor for a bill.

I am always inclined, in thinking of the Indians, to remember a statement made by Anatole France. It was in relation to the Gascony peasants, who were so dear to his Frenchman's heart. "Being simple," he wrote, "they did not go far wrong; they beheld truths which our intelligence hides from us."

For it is true that our intelligence hides from us, when crusaders start their frantic cry that the Indian medicine man is a danger to the Indian, that the medicine man to the Indian is still a great psychological factor toward his well-being. Without him the Indian would feel lost and frightened, just as we should feel if all white doctors by some omnipotent decree were to be withdrawn from the face of the earth. The appearance of the medicine man to the sick Indian brings the relief to him that the appearance of the family doctor brings to us, when we are down with an inexplicable and sudden pain. And we must admit it is great help to see our doctor in whom we have faith. Many times it is half the cure.

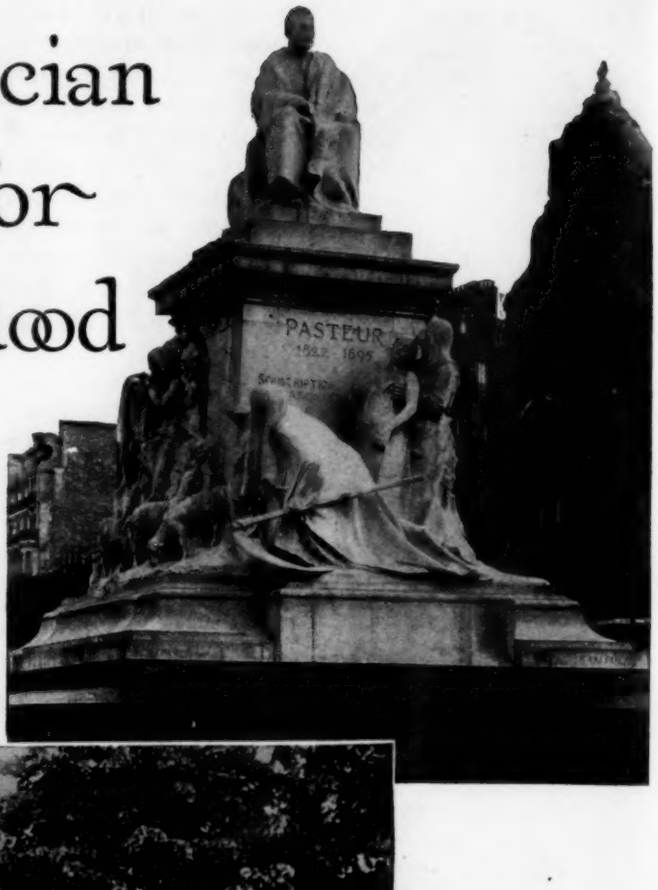
A little daughter of the sun.

Complicated design conceived by Indians.

The term "medicine man" comes from the French colonists calling the native doctors "médecins." It is really appropriate, as Tylor has admirably put it, "to barbaric magicians in all parts of the world, whose arts of curing disease generally include considerable knowledge of herbs powerful as poisons and remedies, of simple stopping of wounds and bandaging of hurt limbs, in fact of medicine in its elementary state, as not yet separated from magic with which it was at first inextricably mixed up."

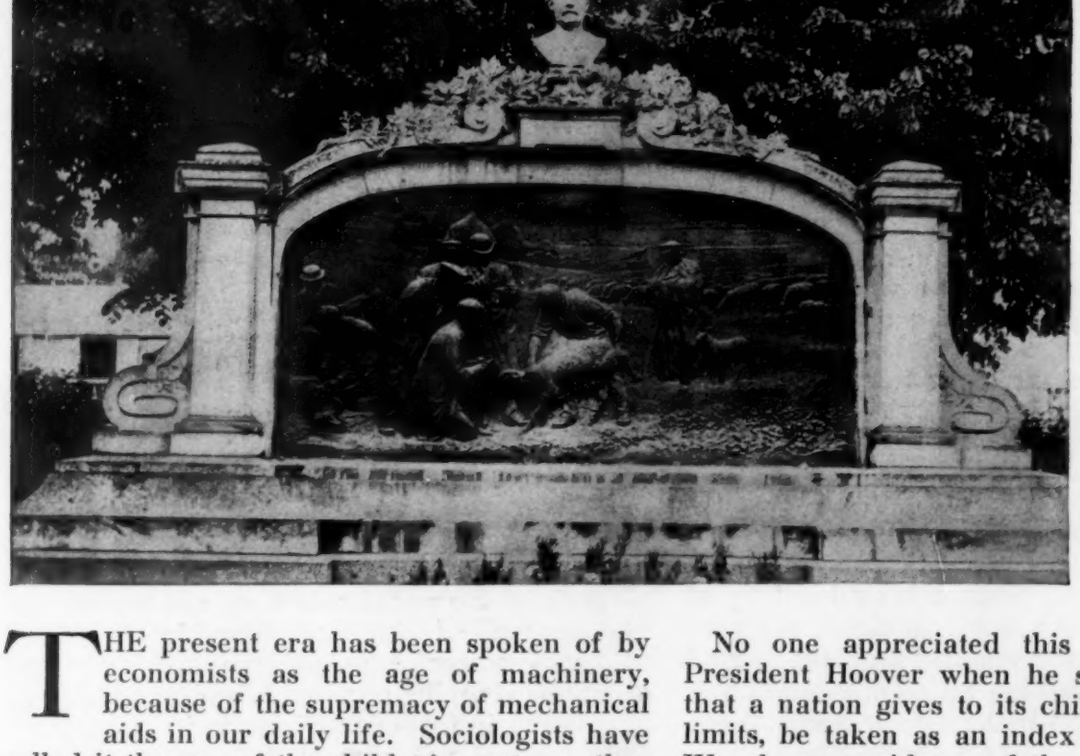
Today there is, through the findings of scientists, a greater comprehension of the really deep and fundamental likeness between ourselves and those whom we term savages. We must conclude that the Indian, for one, can definitely teach us something well worth attention in relation to the simple and common laws of health. It would appear that we, the civilized, are the barbarians in the treatment we accord our bodies.

What the Physician Has Done for Childhood



By

John A. Foote



At the left is the memorial to Pasteur at Chartres. Above are the Pasteur medal and the Pasteur monument in Paris.

THE present era has been spoken of by economists as the age of machinery, because of the supremacy of mechanical aids in our daily life. Sociologists have called it the age of the child, since at no other period in world history have children been cared for with such tender consideration.

To those who study the history of child care there is nothing incompatible in these two designations. For machinery spells greater national production insuring greater national wealth, and children have generally been better cared for among rich nations than when poverty and ignorance have made of life a condition that is both difficult and strenuous.

No one appreciated this more fully than President Hoover when he said that the care that a nation gives to its children may, within limits, be taken as an index to its civilization. We observe evidence of the mechanical phase of our civilization all about us. When we see an airplane in the sky or a motor car dashing along the highway we know, at least subconsciously, that geniuses must have existed such as Langley and the Wrights, or Haynes and Ford and Couzens, who pursued ideals that were laughed at and derided until they had proved themselves beyond disbelief and won success, and that then, and then only, capital and encouragement came to them unasked.

But when we think of the present high state of development at which we are arriving in the health care of our children, it may never occur to us that children were not always so happy or so healthy as they are today; we may even take it for granted that this condition of affairs was not born at all out of hard work and heroic sacrifice, but like Topsy "just growed." The truth, as we shall see, is just the opposite.

It is my purpose to sketch briefly some of the high points in the work done for child health and to indicate the great and important part that the physician took in that enterprise.

May first, Child Health Day, is now arrived at the stature of a national holiday. But to the average physician, every day is child health day, and the problem of saving children's lives and teaching parents how to keep them well is an essential and innate part of the daily grind that is known as the practice of medicine.

It is difficult to conceive in our day some of the health handicaps under which children suffered even half a century ago.

Swaddling was only one of many barbarous customs imposed on infants from the most remote periods up to comparatively recent times. The practice of infanticide was common in every so-called civilized country of Europe from the beginning of history. An illustration from a French manuscript of the thirteenth century tells how infant murder flourished in Rome and how an asylum was established in the Santo Spirito Hospital to which abandoned children might be taken.

In Paris, during the eighteenth century the bodies of infants often choked the sewers; abandoned children were seized by denizens of the underworld and deformed so that they might be exhibited as grotesques and mountebanks. Some of Callot's etchings reproduce examples of this horrible surgery. Baby-farming was a common practice in both England and France up to less than a century ago. Most of these unfortunate children died; it was intended that many of them should die.

We are told that in the eighteenth century out of 10,272 infants admitted to the Dublin Foundling Hospital only 45 survived, a mortality of 99.6 per cent. About that same period the mortality in the Paris Foundling hospital exceeded 80 per cent. Typhoid, dysentery and all kinds of contagious diseases including tuberculosis ravaged the population unchecked. Smallpox was essentially a children's disease; thousands died of it or were deformed by it. Among mothers childbed fever, and among newborn infants erysipelas and other infections were common causes of death.

This state of affairs was true not only among the poor but also among the highest classes of society. For example Queen Anne of England bore fourteen children. Not one of them survived to inherit the throne of England. The general mortality of infants in that period was estimated to be from 400 to 500 for every thousand births; that is, about one out of every two children born alive died in the first year of life. Today in the District of Columbia infant mortality is a little less than 60 per thousand births as compared with about 300 forty years ago. This is a marvelous achievement in public health work, made possible only through the

Jenner inoculating his son Edward against smallpox in November, 1789; this is from the well known painting. At the right is a standard portrait of Jenner.

utilization of the knowledge discovered by pioneering physicians and by the efforts of organized medicine to secure, usually against severe opposition, legislation in favor of measures to prevent spread of infectious diseases and to educate the public in health. How did this tremendous change come about?

The very first physician, Hippocrates, was born probably 2,400 years ago on the island of Cos near Greece. He is called the father of medicine, for he not only studied disease but he organized a society or priesthood to whom he passed on his knowledge. Hippocrates bound these disciples of his by an oath to continue to investigate disease and to pass on the heritage of knowledge to others who were deemed fit to practice medicine. He also described certain of the childhood infections and paid particular attention to the correction and treatment of deformities in the new-born child.

The second century of the Christian era ushered in the reign of the Antonine emperors —Antoninus Pius and Marcus Aurelius. At about this time Soranus of Ephesus, an obstetrician practicing in Rome, wrote a book on women's diseases, one section of which deals with the nursing care of the child. It is a remarkable book—much like our modern manuals. How to tell what ails the child from the way it cries, how to wean the child, its proper clothing, bathing, bedding, feeding, tests for good milk, correct posture—all these things are spoken of. The book was apparently lost for many centuries in the turmoil and desolation of wars and the barbarian conquest.

Orphan asylums were established in the eighth century by a bishop in Milan, but were not even partly successful until the eighteenth century owing to lack of medical knowledge.

Jenner's Discovery of Smallpox Vaccine

Now we come to an attempt to control epidemic diseases. Smallpox and most of the contagious diseases had been studied and described by physicians up to the eighteenth century. In 1798, Edward Jenner, a young physician who in spite of the fact that he wrote poetry had a scientific mind, discovered the principle of vaccinating human beings against smallpox by using fluid from the vesicles found on cows that suffered from cowpox. His discovery was tested and found valuable in spite of many imperfections in the preparation of the vaccine material. The incidence and the mortality of smallpox immediately dropped, and Jenner became an international figure. Today the process of manufacture of the vaccine has become so perfected that vaccination against smallpox is not hazardous, and the disease rarely occurs in epidemic form except in unvaccinated communities. Jenner saved thousands of children's lives even in his own day.

Ignatius Philip Semmelweiss, a Viennese physician, was appalled at the prevalence of fever and the resultant deaths of so many mothers after childbirth. He knew nothing of our modern methods of detecting germs but he proved to his own satisfaction that the disease was carried from patient to patient by attendants and physicians. He dipped his washed hands in chloride of lime before and after handling maternity cases and showed that he could thus prevent infection, reducing the mortality to one third of what it previously was. His discovery was not taken seriously enough by some of his colleagues, although many of them supported him loyally, and his work did not prevail fully until after his death. Hard work and brooding on the injustice of some of his opponents drove him to a madhouse. The rise of bacteriology and the advent of Louis Pasteur were Semmelweiss' justification.

Pasteur's Contributions

Louis Pasteur was originally a chemist, and not a graduate in medicine. But probably no physician ever lived who had bestowed on him more degrees in medicine and more honors by his co-workers in the medical profession than Pasteur. The process of killing injurious germs in milk, which bears his name, was applied by him first to wine and beer. It would be hazardous even to attempt to compute the number of infant lives saved and the amount of children's disease prevented by this discovery called pasteurization.

The commercial pasteurization of milk has practically abolished bone and joint tuberculosis and epidemic dysentery in our large cities. The second summer, once so feared because then polluted milk and water were given to children, is no longer a danger to the infant's health or life.

Pasteur's discovery that many diseases were caused by germs and that vaccines could be prepared in many cases to combat these infections opened up a pathway to achievement that is still advancing in the conquest of disease. The discovery of vaccine against rabies, or hydrophobia, the application of the theory of antisepsis to surgery—these are only a few of his discoveries, which made him one of the great figures of all time.

Lister was the first to apply Pasteur's work in surgical practice. Lord Lister's utilization of Pasteur's discovery made operations that once were almost heroic in daring become a daily commonplace of the surgical hospital.

Robert Koch, who began practice as a country doctor, was the great exemplar and developer of Pasteur's work in its application to medicine. In addition to innumerable discoveries in technic and indefatigable research, he made possible the abolition of the terrible plague of

cholera with its millions of deaths, by discovering its cause—the cholera bacillus—and the mode of its entry into the body. He saved millions of children's lives, not only by his work in cholera, but in his discovery of the tubercle bacillus and its method of diffusion. Once we learn the cause of a disease its control is certain.

Koch visited Washington, D. C., in 1904. At that time hospital beds contained many children suffering from tuberculosis of the bones and joints as well as from tuberculosis of the pulmonary type. There are few today. In less than twenty-six years the death rate from tuberculosis in the United States has fallen from 200 to 50 per hundred thousand.

At the International Conference on Tuberculosis in 1904 was another well known figure, the young Clemens Von Pirquet, who had discovered a method of detecting tuberculosis, whether active or latent, by the use of a simple skin test. Later he became famous for his studies in the nutrition of children and his clinic in Vienna attracted world-wide attention. Year before last he was offered the presidency of Austria; he refused, saying: "I can do more for Austria in my hospital than in the presidency." Last March he committed suicide as a result of worry over financial reverses.

Diphtheria Made Conquerable

A generation ago diphtheria was one of the most dreaded of childhood diseases. Epidemics of it decimated the child population at regular intervals. The usual mortality was about 30 per cent. Membranous croup, which was diphtheria of the larynx and windpipe, caused death by suffocation. Dr. Joseph O'Dwyer of New York in 1885 perfected a tube and an instrument for its insertion in the larynx which saved countless lives and avoided much horrible suffering among children. This process, called intubation, practically ended the use of tracheotomy in diphtheria. O'Dwyer became mentally ill through overwork and died at the height of his career.

The work of Roux in discovering the nature of diphtheria toxin and of von Behring in preparing from animals an antitoxic serum was one of the great steps forward in preventive medicine made possible by Pasteur's previous work. By the use of antitoxin in treatment the death rate in diphtheria has been cut from 50 per cent to 10 per cent. If the disease were recognized early and antitoxin used early enough there would be no death rate.

In the prevention of this disease the remarkable work of Dr. Bela Shick of Vienna, now of New York, must be recognized. Schick proved that some individuals are immune to diphtheria; he invented a test to distinguish the immune from the nonimmune, and also perfected a mixture of diphtheria toxin and antitoxin, the injection of which in divided doses will usually immunize the individual against the disease. Great progress in this procedure has been brought about by Dr. W. H. Park and the late Dr. Abraham Zingher of New York. Now because of the work of these physicians in their laboratories we may confidently predict the coming of a day when diphtheria will be unknown as a disease.

A couple of generations ago blindness in children was a common occurrence due to infections of the eyes that took place at birth. Dr. K. S. F. Credé, in 1884, introduced the practice of dropping silver nitrate solution into the eyes of the new-born infant. This practice, varying somewhat in technic, is now almost universally employed. Children blind from birth infection are such a rarity nowadays as to be practically unknown. Credé gave sight to thousands by this simple procedure.

More Modern Discoveries

There are many other examples of the work being done by the physician for children's health and happiness. The work of George and Gladys Dick in scarlet fever, of Huldschinsky and of Hess in the prevention of rickets by light, of Finkelstein and his school in Germany, and of Holt and Howland and Marriott in infant feeding here in America, of the discovery and cure of hookworm disease in Porto Rico and the South by Colonel Bailey Ashford, U. S. A., and of pellagra by the late Dr. Joseph Goldberger, U. S. P. H. S.—all these and countless others deserve mention. But we must pass on now to consider some of the active workers among doctors in child health education, or child welfare as it is called.

Legislative work on behalf of the child would seem rather away from the field of medicine, yet behind every great legal enactment in behalf of child welfare we see the physician either taking the lead or giving warm encouragement and support to the law-makers. Sometimes the physician becomes himself a legislator and enters the field of politics in an attempt to repair what he considers social injustice.

Such a one was Théophile Roussel, a distinguished graduate of the Paris Faculty, who not only had a splendid practice but who had made a distinguished name for himself as a medical author. He wrote works on occupational disease, pellagra, heart disease and on vocational education. He became a deputy in 1870 and a senator in 1879. In 1874 he became celebrated for his laws for the protection of mothers and of infants whose mothers had gone out to work. Zola in his novel "Fecundity" narrates a gruesome picture of those terrible places known as baby farms. Roussel, in 1889, had a law passed to protect morally abandoned or maltreated children. In December, 1896, he was honored

by a jubilee at the Sorbonne on which occasion he said: "This is not my festival—it is the festival of the protection of infancy." One official said of Roussel's native province: "There are no orphans in that place; those who have lost their parents still have Roussel."

One of the outstanding efforts of modern medicine is the educational work among mothers known as child health work. This is conducted by having consultations at health centers with physicians and by supervisory visits of child health nurses, as well as by pamphlets, books and other literature. At first this work was carried on entirely by small individual clinics, later financed by private organizations, and today is, in many communities, conducted under the auspices of the local health department.

The first movement of this kind began in France and its originator was a physician. Professor Budin, an obstetrician of the Charité Hospital in Paris, extended an idea originated by Professor Herrgott of Nancy, who, in 1890, required mothers to return with their babies for examination one month after delivery. Professor Budin, in 1892, required infants to be brought once a week for consultation and to continue this until the child was a year old. He emphasized as most important the necessity of feeding the infant with the mother's milk. Soon the idea spread all over Europe and later came to America. Our own Dr. Koplik of New York originated the idea of distributing pure milk to mothers at these consultation stations.

In 1906 England convened a National Conference on Infant Mortality and similar meetings were held in 1908, 1913, 1914 and 1921. International conferences have been held at various times since, and every country in the world is now cooperating in maintaining the health of the child. These conferences were not only assisted but were originated by distinguished members of the medical profession.

Here in America we have numerous bright lights who have led the way in child health education—Dr. Koplik, Dr. Coit, Dr. Holt, Dr. Chapin, Dr. Philip Van Ingen, all of New York; Dr. James Hall Mason Knox of Baltimore, and Dr. Henry L. K. Shaw of Albany are only a few. The names of the leading pediatricians of the United States can be found in the list of originators of the Association for Prevention of Infant Mortality, the parent organization of the present American Child Health Association. The magnificent support given to these efforts by private philanthropists as well as by the state must be acknowledged, but this does not take away from the fact that the work was originated and pushed forward by physicians and by organized medicine.

The work of these men cannot be appreciated unless we compare health conditions now with what they were thirty years ago. In my own city typhoid and dysentery were epidemic every summer. People said, "It's the heat of Washington," but Kober and Magruder and their associates knew better. They worked and fought and pleaded at the capitol in the name of the children of that community for laws to prevent contaminated milk from being sold in the district of Columbia and for means of filtering Potomac water from disease-bearing sewage. Congress could not refuse them, and they won their battle.

There are many unknown medical heroes in every city in this country. Day and night the city health departments, directed and manned by physicians, stand like sentinels challenging the outposts of disease.

In recent years many near-medical fads and fancies have come up advocating the practice of healing by all sorts of weird systems. Frequently these cults are practiced by individuals of little real knowledge. There are many such paths and by-paths from the open road of medicine which may seem attractive, and one hears sometimes their devotees saying: "The physician really does nothing for you; he just talks and gives you something to take." But if the world, during the past generation, depended for constructive work in the health of the child and the health of the community on those outside of the medical profession, the Panama canal would still be a pestiferous death-dealing marsh and the capital of this nation would still be losing in death almost one third of all the infants born within its limits. Childhood would still be penalized and made unhappy by disease and suffering. Washington would still have the reputation of possessing a climate so bad that people, and especially children, could not live there in the summer.

Today there is less illness in the city of Washington in the summer than during the winter months. Millions of children are playing and laughing and are well and happy today who, but for the work of the physician, would either lie still in death or else drag out miserable lives of pain and sorrow, a burden to themselves and to the community.

This is something, but not all of what the medical profession has done and is still doing for childhood. It is a page of achievement that stands by itself and needs neither apology nor praise. There is scarcely a discovery or invention mentioned in this long list that would not have brought the originator an immense fortune if it had been patented and exploited. Instead the profits were given to humanity in the name of medical ethics.

NUTS - A High Powered Food

By

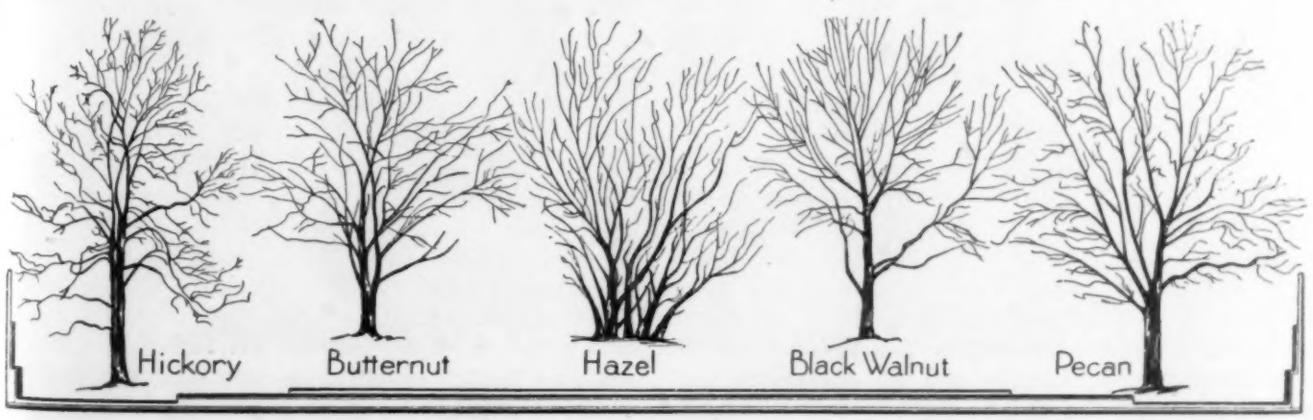
Lulu G. Graves

WE ARE likely to think of nuts as delectable tid-bits which make a welcome addition to the dessert course, but as a matter of fact nuts are a food, and a high powered one, because they are so concentrated.

Nuts have universally been eaten by man. When early settlers came to America native nuts formed a large part of their dietary. Hickory nuts, black walnuts, hazelnuts, pecans, butternuts, chestnuts, chinkapins, have all had their share in providing food for the pioneer. Today the native nuts are largely dying out in spite of their fine flavor; this may possibly be due to the fact that black walnuts, hickory nuts and butternuts are difficult to crack and their meats do not come out easily. The native chestnut trees have been cut for many years and blights have further stricken them. Hazelnuts are produced in considerable quantities but a larger sweeter variety called filberts are imported, mainly from Spain and Italy. The chinkapins, so famous in Uncle Remus stories, are a small, fine flavored variety of chestnut.

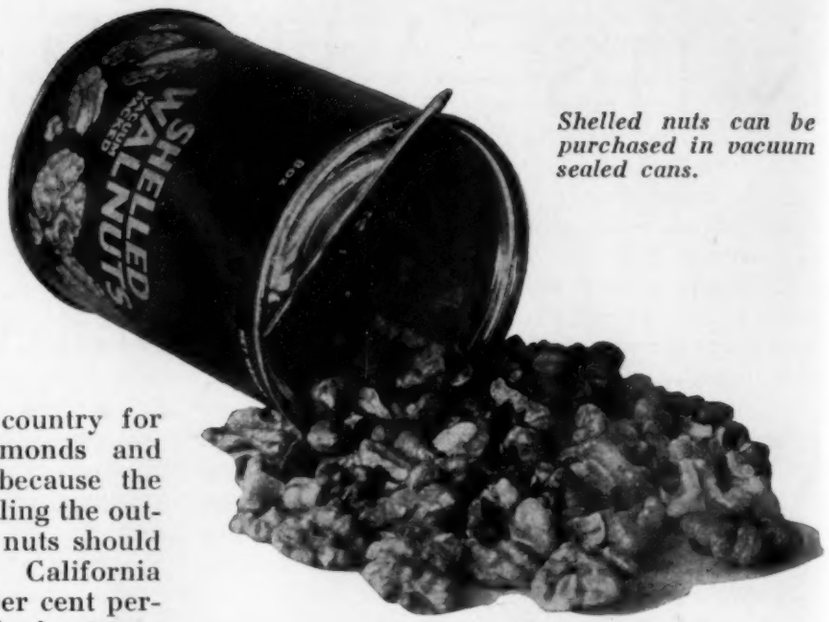
The outstanding constituent of a nut is its content of protein and fat, although some nuts contain carbohydrate in sufficient amounts not to be ignored. Bailey says that "those having a high fat content—upward of 60 per cent—are the pecan, Brazil nut, butternut, filbert, candle nut, hickory nut, pine nut and walnut. Those rich in protein—over 20 per cent—are the pignolia (a pine nut from Spain), peanut, butternut, almond, beechnut, candle nut, paradise nut and pistachio. Those which are prized for their starch content—over 40 per cent—are the acorn, chestnut, water chestnut, chufa (earth almond), and the ginkgo nut." When it is considered that vegetables may contain as much as 90 per cent of water and meat as much as 70 per cent, it is somewhat of a revelation to us when we realize that the common walnut has approximately 5 per cent water and 95 per cent solids.

Nuts, then, should be used as a food, not as a dainty. When we give their high fat and protein content due consideration, we realize that they may be used as a substitute for meat, eggs, fish and cheese. H. C. Sherman says it might be more logical to say that meats are a substitute for nuts. Because nuts are low in ash and because vitamin B is the only vitamin of any moment in their content, they should be combined with fruits and vegetables. Some especially happy combinations are pecans and persimmons, for both have slight acridness and they are grown in the same sections of the United States; pistachio nuts and avocados (calavos), for both have a distinctive exotic flavor and the avocado has a nutlike taste that is different; pears and almonds or figs and almonds are equally delicious; peanuts and raisins or other dried fruits are particularly adapted to children's between-meal service or for lunches when hiking but are good at other times too; apples are well liked as accompaniments for nearly all common nuts, and they are real comrades with hickory nuts or walnuts (either English or black) on a long winter evening.



A dessert of fruit and nuts is not only more desirable than rich pastry or puddings, from a dietetic standpoint, but it saves time and strength of the housewife.

Nuts must be chewed thoroughly or ground before eating in order to facilitate digestion. When they are well chewed and eaten in sane relation to the rest of the meal, they do not deserve the reputation for indigestibility which has been given them.



Shelled nuts can be purchased in vacuum sealed cans.

Among the nuts grown in this country for market the peanuts, walnuts, almonds and pecans are best known, perhaps because the growers and the associations controlling the output have set high standards. Any nuts should run from 85 to 90 per cent good. California associations require nuts to be 90 per cent perfect in order to bear the association's stamp, and they not infrequently are 95 per cent perfect. That this is possible is due to many factors. Commercial growers make constant efforts to improve the quality of their products. They grow them under the most favorable conditions and the grading and preparation for market are carefully done.

Best to Wash All Shelled Nut Meats

Shelled nut meats are now a common product in the market. These are not always picked from the shells under the most sanitary conditions and they are likely to be exposed to dust and dirt, both in preparation and in marketing. It is therefore wise to wash all shelled nuts before using. The best method is to use hot water and make the process as rapid as possible in order not to affect the content and flavor.

Recently the practice of selling shelled nuts in cans and glass jars has grown. The nuts packed in a vacuum will keep indefinitely and will always be on hand regardless of season. While the price per pound is higher than for unshelled nuts, there is no waste, which brings the cost per measure of nut meats down.

The more common nuts ripen in the fall and are in season then and during the winter, when they are best and cheapest. The Brazil nut (niggertoe) is an exception, as it ripens in January and arrives here in April. Since nuts have such a high oil content they are likely to get rancid unless kept in a cold place. When buying nuts for table use, it is better to buy straight varieties and not mixed nuts; the latter are often old or have "fillers" of undesirable nuts, such as hard-shelled almonds or small hard-shelled pecans. Neither should too much be paid for large nuts. There may be 15 or 20 cents difference between the price of large and medium sized nuts and no corresponding gain in flavor; this is true particularly of Brazil nuts, English walnuts and chestnuts. The larger pecans usually have thinner shells; the paper-shell almonds are easy to crack and have a large proportion of meat to shell.

Nuts That Are Improved by Cooking

Frequently nuts are improved by cooking. This is true especially of the peanut and chestnut. Because of the large starch content they are likely to have a raw flavor if not cooked. The small American chestnuts are good without cooking, but the larger European type is not. Peanuts are roasted and are frequently lightly sautéed and salted.

The peanut is not really a nut; it is a variety of pea grown in the ground. The sale of approximately a million pounds of peanuts per year proves their popularity. The consumption of roasted peanuts at ball games and other athletic events is not such a bad idea as one might think. They are the highest in energy value of all nuts, and they have the added merit of being in hermetically sealed packages, provided by Nature, from which they may be easily released. The edible portion is rich in fat (50 per cent) and protein (30 per cent); it has been found that only about 6.68 per cent of the carbohydrate is utilized by the body. For this reason it is accepted as useful in the diet of diabetics.

Peanut butter was introduced in the latter part of the nineteenth century as a diet medicine. In making the peanut butter two types of peanuts are usually mixed. The large Virginia nut, known as the Jumbo peanut, is mixed with the small, round Valencia, or Spanish, peanut, which is especially rich in fat; this mixture produces a peanut butter that is neither too oily nor too dry. Peanut oil is being used in making butter substitutes, soaps and salad oil and the meal is used as peanut flour or in live

stock feed. Other forms in which they are consumed are as salted nuts and in candy.

Although peanuts can be used in much the same way as walnuts, there are a few places where they are particularly appropriate. With bananas or apples in a salad they are delicious and make a nutritious dish. A salad of peas, grated raw carrot, peanuts and mayonnaise is pretty and is almost a meal in itself. Peanuts may be added to popcorn balls. Peanut butter is sometimes used in soup, candy and bread—but not half so often as it should be, according to its devotees.

"English" Walnut Native of Persia

We are told that the walnut which we dub English is a native of Persia, and was long known as the Persian walnut. Today the larger part of our walnuts come from California. Though walnuts are usable in as many ways as any nut, the per capita consumption is not much above a half pound a year of the shelled nuts. They can be combined with vegetables to make a casserole dish, which will furnish the main dish for a meal. Black walnuts are particularly good used in this way.

Nuts in sandwiches, bread, rolls and cinnamon buns are always well liked and add to the food value. Equal parts of chopped ham and walnuts seasoned with salt and mustard and moistened with cream make a fine filling for a brown bread or whole wheat sandwich. A few walnuts added to stuffed green peppers, eggplant or tomatoes make a good dish and even the most prosaic scalloped vegetable is glorified if chopped nuts are added to the buttered crumbs scattered over the top and browned. Sweet potatoes may be boiled, mashed and seasoned with butter, milk, salt and cinnamon. Then add a cup of walnuts (to eight potatoes) and turn into a baking dish. Cover with marshmallows and bake until the marshmallows are golden brown and puffy. Serve immediately.

When walnuts are added to croquettes, scallops and souffles they will eke out an insufficient amount of meat. Nuts in salads do more than add nutritional value, for their crispness will take the place of celery, which may be difficult to obtain. A clever salad garnish consists of white cream cheese rolled into a ball and decorated with a walnut half pressed into the side. It will look like a fondant bonbon. American cheese and nuts may be ground together, moistened with cream, seasoned and rolled into balls to accompany dessert or salad. That a mixture of cheese and nuts is exceedingly concentrated food should be taken into account in planning the menu. The addition of walnuts to blanc mange or rice pudding will often gain adherents for these desserts sometimes scorned. A few nuts added to almost any salad, dessert or casserole dish improve it.

Wise Uses of Almonds

Almonds come from California and subtropical countries such as Italy, France, Spain and Portugal. There are several varieties from the paper shell, with a shell that can easily be cracked in the fingers, to the so-called soft shell and hard shell. Jordan almonds imported from Spain have a more delicate flavor and command a higher price. A beverage made from almonds is called Orzata and may be purchased during the summer in the Italian sections of the larger

Part of a group of 700 girls employed during the busy season to sort walnut kernels into grades and classifications.

American cities. Almonds are valuable in diabetic diets, used simply as nuts or in almond meal for cookies.

Because almonds have such a distinctive flavor they have special food affinities. An angel food cake flavored with rose and with an almond flavored icing decorated with blanched almonds and candied rose petals is, in truth, angel's food. Equal parts of almonds and dates run through the food chopper and moistened with lemon juice make an excellent sandwich filling. Or plain chopped almonds may be used between slices of buttered bread.

A method of blanching and salting almonds that does away with the objectionable salty, greasy effect is to blanch them in heavily salted water. Use one quarter of a cup of salt to two cups of water; heat this to the boiling point, and add one cup of nuts. Remove them from the fire and let them stand from eight to ten minutes. When the skin may be easily removed, drain and dry the nuts. Place them in a baking pan with oil or melted butter over them and bake them in the oven until they are a delicate brown. All fat should be absorbed. By blanching the almonds in the brine the flavor of the salt penetrates through them instead of staying on the outside. This method can be used for salting other nuts.

The old custom of using chestnuts in poultry dressings is a good one, for the high starch content of the chestnut is a good foil to the fat and protein of the meat and the flavors of the two combine well. Boiled chestnuts may be served with cream or butter the same as a starchy vegetable or they may be boiled until tender, about twenty minutes, then peeled, skinned and baked for a few minutes. They can be combined with small white onions or sweet potatoes to good advantage.

Pecans are grown in the southern and gulf states. Serious efforts have been made to encourage the production of only thin shelled nuts, which are sweet and large; the improved quality is doubtless the reason for their great increase in popularity during the past few years. A pecan product has been developed that consists of the finely divided nut meats. Because of the method of pulverizing the meats, they are easily digested and can be used many ways.

Brazil nuts are imported from the Amazon valley in the spring and although they are harvested by the natives they run particularly uniform. Medium sized nuts are the best buy, as they are easier to crack and have just as sweet a flavor as the larger ones—and are cheaper. Sliced Brazil nuts are delicious in salads, fruit cocktails, puddings and cookies. They have a high fat content and so are likely to be rancid by Christmas time, when there is the greatest demand for them, unless they have been carefully stored.

Hazelnuts are usually the small, sweet native nuts, while the term filbert is reserved for the imported varieties from the Mediterranean countries.

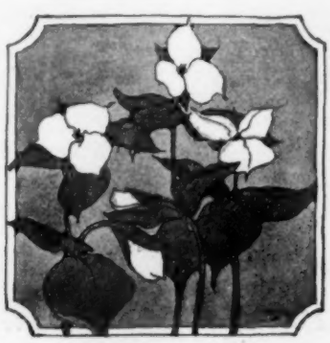
Pistachios are usually sold unshelled after being treated by a salting process that leaves them silvery colored. The best pistachios are greenish rather than yellow when the meat is broken in two.

Pine nuts, known as piñons or pignolias, depending on the variety, are used in many ways. In New Mexico a delicious toffee is made with piñons. Italians use the pignolias a great deal in meat dressings and Armenians employ it in stuffed eggplant. They are particularly good in pound cake and lend an unusual flavor.

The kidney shaped cashew, besides being popular for its rich flavor, is interesting because of the way it is produced. The cashew fruit is pyramidal in shape and at its distal end bears the nut; that is, the seed is borne outside the fruit. Roasting is necessary to eliminate a substance that is toxic in the green nut.

The hickory, black walnut and other native nuts are hard to obtain in the city and may be of doubtful quality. They are hard to crack, but their surpassingly good flavor makes the effort well worth while. Hickory nuts with baked apples is a masterpiece of nut dishes. So we might say is a black walnut fudge. And a butternut cake is good beyond description.

Practically all common nuts may be used interchangeably in the menu and there is no part of a meal from soup to dessert in which nuts or nut butters cannot be used. A realization of their food value as well as the present acceptance of their good flavor makes them deserving of a larger annual consumption.



SIMPLE LESSONS *in* *Human Anatomy*

By B. C. H. Harvey

LESSON XII

THE RESPIRATORY APPARATUS

EACH cell of the human body is an engine. The mechanical engines of our automobiles and factories are simple. They produce motion, heat and electricity. They get their energy by burning fuel, either liquid (oil) or solid (coal). To do so they use up oxygen and give up carbon dioxide. The cells of our bodies are complex living engines. They produce all sorts of things: motion, heat, electricity and chemical products. Each cell has its own special product, but all get their energy in the same way—by burning liquid fuel. To do so they use up oxygen and give up carbon dioxide.

In factory engines the combustion chamber is usually separate from the energy-producing part; the fire is under the boilers. In engines of motor cars and in the body cells they are combined. Fires usually produce heat and light. The slow combustion in our cells may produce a fair amount of heat, as in muscle and liver cells, but it more often produces other forms of energy—chemical, as in gland cells, and nervous or electrical, as in nerve cells. It never produces light in the human body but does in some other animals like glow-worms and the little deep sea animal, *Noctiluca miliaris*.

Since each cell gets its energy by combustion, each must have a supply of oxygen and must be able to get rid of its carbon dioxide. This service must be constant. Failure of the oxygen supply for even one minute embarrasses all the cells and asphyxiates some of them. Cells on the surface might conceivably effect this exchange directly with the air. In some small animals this is done. But large animals like man have relatively little surface, and the outer skin cannot take up oxygen from the breezes.

Nearly all our cells are far from the air. How, then, does each get its constant, never-failing supply of oxygen and give up constantly and certainly its carbon dioxide? To make coal or oil combine with oxygen—that is, burn—we need at least a spark to kindle the fire. What makes the wet liquid fuel in our cells combine with oxygen (burn) without a spark or match? The blood carries the oxygen and carbon dioxide, and the enzymes in the cells keep the oxidation (fires) burning, though sometimes only smoldering. The enzymes tend the fires of life.

The red cells in the blood, 23 million million in number, carry oxygen to the tissues. They are made largely of hemoglobin, a substance which can take up 1⅓ times its own weight of oxygen and which gives up about 40 per cent of its oxygen to the cells while passing them in the capillaries. The red corpuscles and the blood fluid take up carbon dioxide, which is very soluble in them. The blood never stops flowing during life, and so the oxygen-carbon dioxide service to all cells, even the most remote, is constant and unfailing.

In people who live in very high mountains, where the air is less dense, as in Switzerland, there are many more red cells in the blood—even as many as 35 million million. This seems an astounding number.

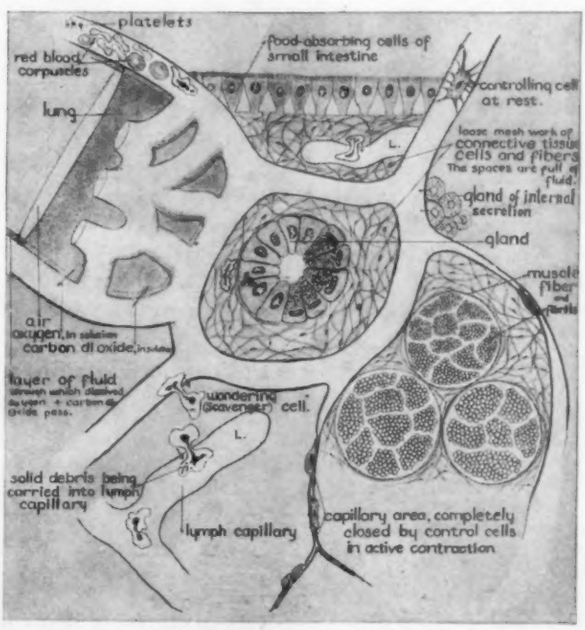


Fig. 117.—Diagram showing relation of capillaries to tissue. Blood cells and platelets are shown only above and at the left. Actually they fill all the space in the capillaries. The diagram indicates how the blood gets oxygen from the lungs and food from the intestines. It gives them up to muscles, glands and other tissues, taking from these tissues carbon dioxide and waste. It carries the carbon dioxide to the lungs, where it gives it up.

Where do the red cells get their supply of oxygen and where does the blood get rid of its waste carbon dioxide? Obviously it must be by exchange with the air, which contains 21 per cent of oxygen (the rest is mostly nitrogen) and which takes up any amount of carbon dioxide. But the blood cannot make this exchange on the body surface. Our skin is almost useless for this service, and moreover it is too small, as large animals have relatively little surface.

The solution of the problem that animal bodies offer is the lungs (figs. 117 and 119). They bring oxygen to the blood cells and in them air, constantly renewed, takes up the waste carbon dioxide. In them is a surface fifty times bigger than the skin, a surface with constantly renewed air on one side and with constantly moving red cells and blood fluid on the other side. The surface of the lungs is perfectly adapted for this exchange, for it is a moist jelly-like substance which dissolves oxygen and carbon dioxide with the greatest readiness and passes them across from one side to the other. So all animals higher in the scale of development than fishes have lungs. They have a pulmonary circulation and a body circulation of the blood. In body capillaries blood gives up oxygen and takes up carbon dioxide. In lung capillaries it takes up oxygen and throws away the carbon dioxide (fig. 117). The blood hurries back and forth from one to the other. About three times a minute it goes through both sets of capillaries. Just as much blood goes through the lungs as through the body vessels.

In twenty-four hours an active man absorbs more than 20 cubic feet of oxygen, and the blood gives up more than 20 cubic feet of carbon dioxide; hard work increases both amounts. The respiratory surface in the lung is about 700 square feet. All the exchange—the essential part of respiration—goes on between the capillaries and the special respiratory surface. The rest of the breathing apparatus is accessory, making fresh air come to the respiratory surface and taking away the used air, which is poor in oxygen and laden with the carbon dioxide that the blood has thrown off.

The mechanism by which the air is constantly changed and renewed over this large surface far in the interior of our bodies is like a bellows. It is an automatic self-regulating bellows, which works seventeen times a minute when we are quiet and which automatically speeds up even to seventy or eighty times a minute when the need for air is very great, as during severe muscular effort or in pneumonia.

This bellows mechanism is shown in figures 118 and 119. The stem consists of the nose, all three parts of the pharynx, the larynx and the trachea (fig. 122). The expanding part is the lungs. In an ordinary bellows there is a valve near the handles to let in air. In the human bellows this is not practicable; the nozzle is the only opening. This makes the task much more difficult. Further, the air path is crossed in the pharynx by the food path consisting of the mouth, middle and lower pharynx and esophagus (fig. 122). The traffic at this crossing is controlled automatically by valves, the go sign being usually set for the air path. It is turned on for food traffic only occasionally for a fraction of a second, when the food is rushed across with lightning speed.

The lungs lie in the cavity of the thorax much as a toy rubber balloon might lie in a bottle (fig. 120). If the air is pumped out through the opening shown in the bottom of the bottle, the

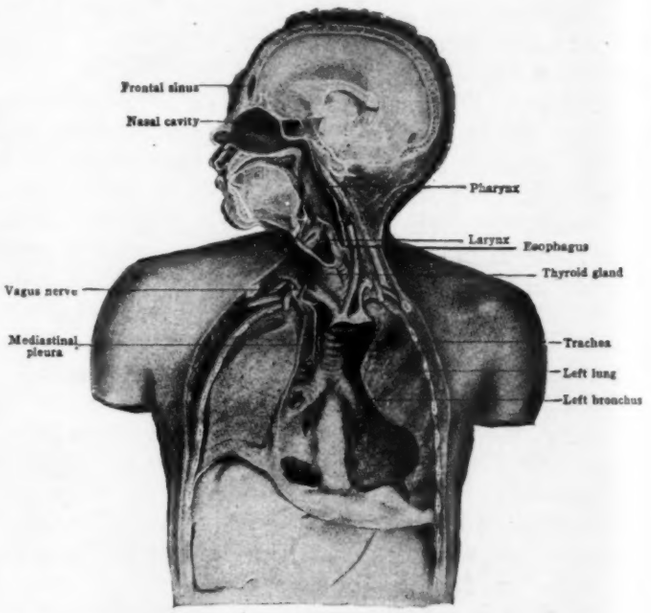


Fig. 118.—Dissection to show the bellows-like respiratory apparatus. The stem consists of nasal cavity, pharynx, larynx and trachea. The expanding part consists of the right and left lungs in the thoracic cavity. The heart and great vessels have been removed from the space between the lungs and in front of the trachea. (Modified from Morris, Blakiston.)

balloon will be pressed in by the air pressure (15 pounds per square inch) till it flattens out everywhere close against the bottle wall.

It is just so with the lungs in the thorax. The lungs and trachea are elastic like the rubber balloon. There is a vacuum between lungs and thoracic wall, so the air pressure is always distending the lungs flat against the wall and the lungs by their elasticity are always trying to contract, but the air pressure is always too much for them so they are always distended. The walls of the thoracic cavity, however, change their form with every breath; the thoracic cavity expands and then contracts.

In a bellows two of the walls move toward and from each other; in the thorax four of them move considerably. The floor moves down and up, both sides move in and out and the front wall moves forward and back. There is little movement of the ceiling or of the back. The

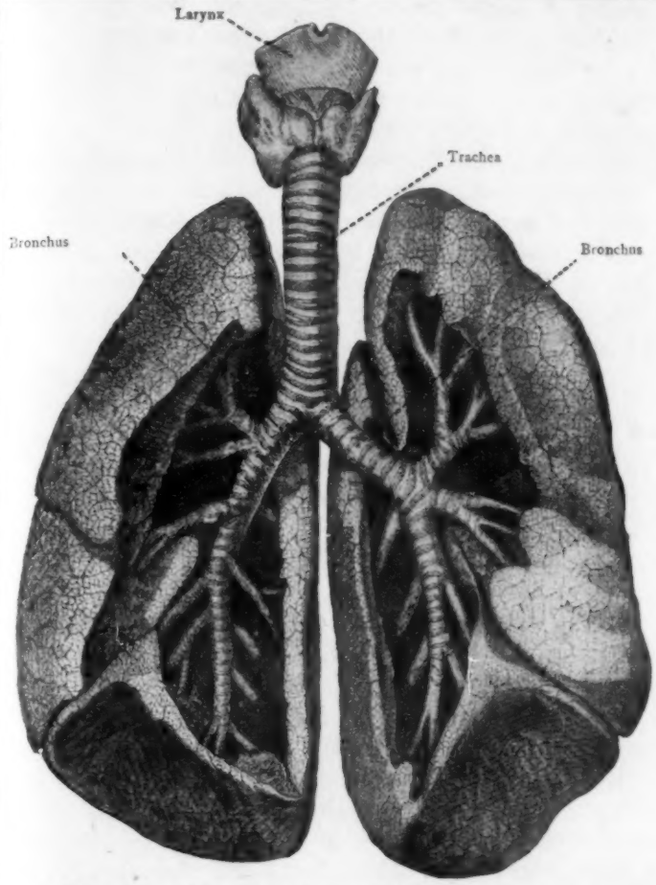


Fig. 119.—Above are shown the larynx, trachea and lungs seen from in front. The lungs have been partially dissected to show the bronchi and their branches. (From Toldt, The Macmillan Company.)

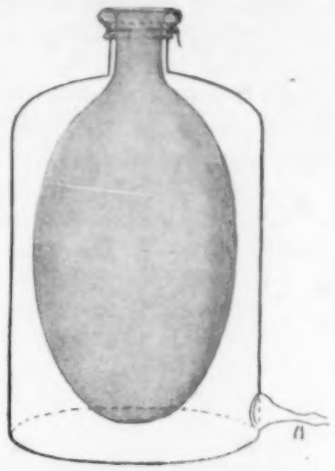
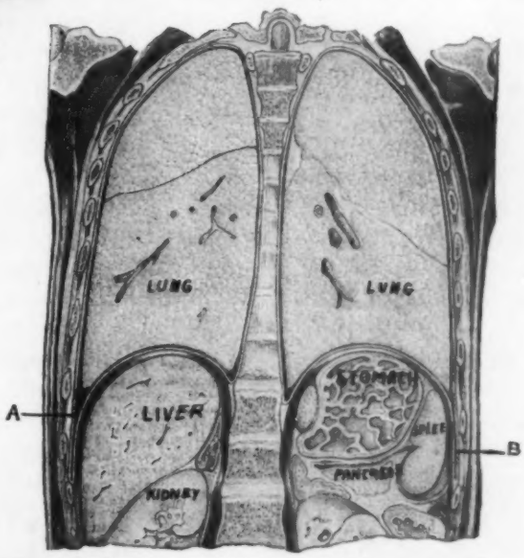


Fig. 120.—Diagram of toy balloon in a bottle. If air is pumped out at A, the balloon will expand because of the atmospheric pressure inside it.

Fig. 121. — Human skeleton seen from the side.

Fig. 123.—Section of the trunk, showing at A and B the spaces into which the lungs expand when the diaphragm contracts. (Modified from Toldt.)



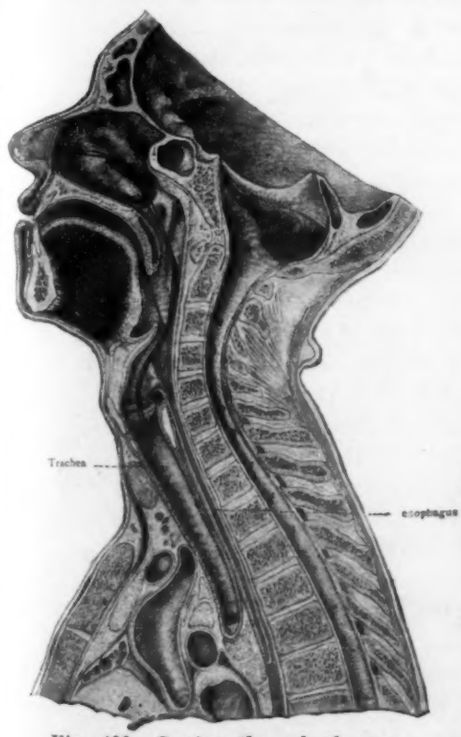


Fig. 122.—Section through the median plane of head, neck and thorax. The air path is indicated by the double line, the food path by the single line. The two paths cross in the lower pharynx. (Modified from Toldt, The Macmillan Company.)

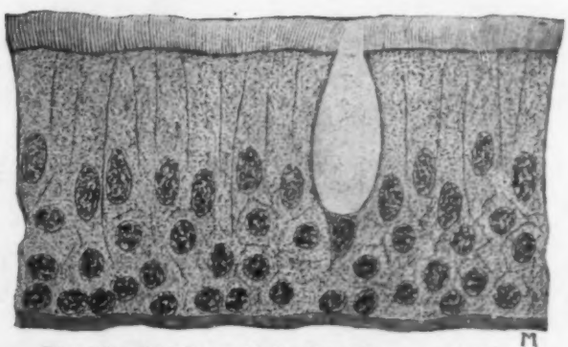


Fig. 124.—Membrane lining the air ways—respiratory epithelium. The largest goblet shaped cell is full of mucus. (From Bailey and Miller, William Wood & Co.)

expansion of the cavity sucks in a current of air—inspiration—and its contraction blows a current out—expiration.

The side walls of the thorax are made by ribs (fig. 121). Each is curved like a bow. The anterior part of each is cartilage, not bone. The ribs are disposed and attached as shown in figure 121. The middle of each hangs down. The muscles lift the middle of all the ribs together; when this occurs the chest gets wider from side to side. Furthermore, the breast bone is then shoved forward and lifted upward, so the chest gets deeper from front to back. The lungs follow the walls because of the air pressure, and so fresh air comes in.

In these movements of the ribs the anterior cartilaginous parts of them are twisted somewhat. The usefulness of these cartilages consists in this capacity of twisting. They also yield somewhat to blows, whereas bone would not yield and would often be broken.

In quadrupeds with their front feet on the ground, the shoulders are fixed, and the ribs are lifted from shoulder bones. In man the front limbs are off the ground. The shoulders are not fixed and are a dead weight saddled on the thorax. They interfere with the breathing movements. When a man is out of breath as after a foot race, he instinctively tries to get the weight of his shoulders off his chest either by lying down or by leaning over a fence with his elbows resting on the top of it.

Because of this interference with movement of the upper part of the chest, the human animal depends more on the up and down movement of the chest floor; that is, of the diaphragm.

The diaphragm is made up of muscle shaped like a tall hollow dome somewhat flattened on top. Its lower end is a circle attached to the spinal column behind and to the lower margin of the bony thorax all the way round. The interior is occupied by liver, stomach and other viscera of the abdomen. When it contracts it makes these abdominal viscera move down; at the same time it lifts up the ribs. In both ways it makes the cavity of the thorax bigger. Further, it changes its shape in contracting—from being a dome it becomes a cone. So the lower edges of the lungs are then forced by the atmospheric pressure to descend around the cone almost to the lower margin of the chest wall (fig. 123).

In taking in a full breath we use every means of enlarging the thorax. We lift our shoulders by muscles coming from the skull and spinal column; we lift ribs and breast bone from the same supports; the diaphragm helps lift the ribs, and it shoves down the abdominal contents so much that the abdomen sticks out in front. Then, if we put our hands on a table and shove up our shoulders from them we can enlarge the chest a little more by pulling the ribs still higher up toward the supported shoulders.

In these ways we can enlarge the capacity of the thoracic cavity more than 2 quarts above its resting capacity and more than 3 quarts above its capacity at the end of forcible outbreathing, or expiration. The lungs fill all the space, being shoved into it by atmospheric pressure, and so we can make 2 or 3 quarts of fresh air go into them whenever we like. In ordinary quiet breathing we enlarge the thorax only about 1 pint with each intake of breath.

We can breathe somehow in almost any position. With a load on our shoulders we breathe with the diaphragm. A sailor lying over a yard arm on his abdomen breathes with his ribs. If we wrap ourselves sideways round a barrel, we breathe with the free side, using the ribs of the free side and one half or more of the diaphragm on the same side.

When the thoracic cavity gets smaller, air goes out of the lungs. The elasticity of the stretched lung (they are always stretched) starts it. Then we let the weight of our shoulders fall on the thorax and that shoves down the bow shaped ribs and the chest gets narrower; gravity pulls both shoulders and ribs down. The rib cartilages in front are twisted in inspiration; their elasticity makes them untwist and makes the ribs sink. These forces are enough for ordinary expiration. For forced or prolonged expiration we use muscles—mainly the great muscles of the abdominal wall. They contract on the abdominal contents, which in turn shove up the diaphragm and make the chest cavity smaller. So the abdominal muscles are the ones that give the prolonged note in singing; they are the muscles that blow on a trumpet.

The stem, or pipe, of the human bellows is not a perfectly simple tube. Its upper end is expanded and modified in three regions. It consists of the trachea, and the three enlargements, larynx, pharynx (lower, middle and upper parts) and the nose (fig. 118). The work of this tube is to carry air in and out, test it to see if it is good, warm it if it is cold, moisten it if it is dry, filter some of the dust out of it, dispose of dust that falls on its walls, and incidentally make the sounds used in talking or singing.

The lining of this pipe consists of the respiratory epithelium (fig. 124). Its main characteristic is the possession of cilia, which stick out like the hairs on a brush. The cilia move. They sweep dust out through the nose openings or up into the pharynx. This movement goes on even for two or three days after death. Numerous glands keep the walls moist and thus dust adheres to them. Epithelium of this type lines all the airways, except in a few special locations, which will be mentioned later.

(To be continued in the April number.)

Cancer of the Breast

By J.B.Carnett

CANCER of the breast is one of the most hopeful and curable forms of cancer when treatment is applied in the earliest stage of the disease. The general public has an entirely wrong conception of the value of early operations for breast cancer because the cases with which they are most familiar are the ones in which operations in the late stages fail to cure the disease.

In its earliest stage the cancer is confined to a small lump in the breast and operation undertaken at that stage results in permanent cure in the majority of cases. In the course of a few weeks cancer cells may extend from the breast into the lymph nodes of the armpit and in that stage only one-third as many patients can be cured. With further delay of a few months the cancer cells are likely to extend into the lungs, liver or bones and if that occurs cure is impossible.

The majority of patients with cancer of the breast enter a hospital many months later than they should and their prospects of cure are then bad. Early treatment implies early diagnosis and early diagnosis can be made only when the patient reports to the physician within the first twenty-four hours after finding anything abnormal in the breast.

Unfortunately there is no symptom by which the patient can determine whether the breast trouble is harmless or dangerous. The only way to determine this question is by an immediate visit to a physician or hospital. The worst possible course to pursue is to wait to see what will happen before seeking a medical opinion. If cancer is present it should receive treatment at once. Untreated cancer invariably causes death. Any delay in starting treatment may result in the cancer spreading too far to be cured by any form of treatment.

The general public has a deep-rooted belief that cancer is always painful and if pain is absent then cancer is absent. This belief is absolutely erroneous because cancer anywhere in the body is never painful in its earlier stages. The early onset of pain usually means cancer is not present. Pain in cancer is always a late symptom and to await its appearance means delayed treatment with greatly lessened chances for cure.

Cancer of the breast may first announce itself in a variety of ways but absence of pain should never cause delay in seeking professional advice for any abnormality.

Every woman should become conversant with the danger signals indicative of possible breast cancer. Cancer of the breast is most common in women after 35 years of age but it does occur occasionally at a younger age and also in men.

Usually its presence is first detected by the patient's hand coming in contact with a painless lump in or near the breast or in the armpit.

Of all the definite lumps that women find in their breasts about one-half are not cancer. An immediate visit to a physician is therefore imperative as it will relieve all fear if the lump is innocent and will result in early treatment with excellent prospect of permanent cure if it is cancer.

Some of the innocent lumps if left alone tend to become cancer with advancing years and it is a good rule for any woman over 25 years of age to have any definite lump removed. Innocent lumps can be removed by a slight operation under either local or gas anesthesia without deforming the breast. This incision is made out of sight at the bottom of the breast. The routine removal of supposedly innocent breast lumps will save many lives and prevent needless worry.

A discharge—either bloody or watery—from the nipple is sometimes the first sign of breast cancer. A similar discharge may occur in the absence of cancer. An immediate visit to a physician or hospital is indicated to determine the best plan of treatment. Usually the physician will detect a tiny lump which causes the discharge and will advise its removal in any event. If cancer is found at the exploratory operation the entire breast may then be excised under the same anesthesia.

Distortion of the nipple or the sinking into the breast of a previously prominent nipple may be the first noticeable evidence of cancer. Sunken nipples are frequently present in the absence of cancer. A prompt visit to the physician will decide whether the condition is harmless or whether it requires immediate treatment.

In the unusual event of an excoriation or abrasion developing in the skin surrounding the

nipple a physician should be consulted at once to determine whether the trouble is a cancer requiring immediate operation or a simple eczema calling for nonoperative treatment.

Some forms of cancer enlarge the breast and others cause the breast to shrink. Inequality in the size of the two breasts is also frequent from causes other than cancer and prompt advice from the physician is therefore requisite to determine whether or not one of the breasts requires treatment for cancer.

The total number of persons with a breast lump in a city the size of Philadelphia probably averages less than two patients per year for each physician. It is therefore obvious that many physicians do not obtain the necessary experience to make a diagnosis between cancerous and noncancerous conditions of the breast. A few physicians take the attitude: "If your lump does not bother you, then don't bother it." They are dangerous advisers as that policy results in cancer reaching the incurable stage before treatment can be started.

Family Doctor Should Arrange Consultation

Beware of the physician who is not able to make a diagnosis and requests the patient to return week after week to observe the course of the disease, which if it is cancer means a lost opportunity for possible cure by early treatment. Some general practitioners immediately refer their patients with disorders of the breast to specialists or hospitals, in order to arrive at the earliest possible diagnosis. It would help greatly in the warfare on cancer if every woman with any breast abnormality would request her family physician to arrange for a consultation in her case with some one whom he knows to be a specialist in breast diagnosis.

If the possibility of cancer cannot be ruled out otherwise, an incision should be made into the breast within the first five days to determine the true nature of the disease, so that appropriate treatment may be applied. I cannot repeat too often or emphasize too strongly the imperative need for every patient to seek a competent physician within the first twenty-four hours after finding any abnormality in the breast.

Patients who fear operation for breast cancer have far greater need to fear what will happen if operation is not undertaken early. The great majority of patients who deliberately avoid operation in the early stages of breast cancer beg for operative relief in its later stages when the prospect for cure is nearly hopeless.

In the past there have been three sources of delay amounting to an average period of twelve months between the onset of the danger signs of breast cancer and the institution of curative treatment. The first main cause for delay has been failure of the patient to report to her physician until many months after the onset of suspicious symptoms. I hope I have made clear the importance of seeking medical attention within the first twenty-four hours.

The second cause of delay has been the inability of the physician to make a diagnosis in the early cases of breast cancer. It was formerly the custom to watch such cases over a period of months until unmistakable signs of cancer developed. Today many, but not all, physicians realize this was a mistaken policy because it so commonly resulted in early curable cancer passing into an incurable stage before treatment was applied. At the present time, if the physician has any reason to suspect cancer he should at once send the patient to a hospital or seek an immediate consultation with the best expert available in diagnosis of breast diseases.

The third source of delay in the past has arisen when the physician advised operation or hospital and the patient, failing to accept that advice, went to other physicians and wasted an average of another two months before taking treatment. These three delays amounting in the past to an average of more than one year can be reduced to one week in the future by the patient reporting within the first twenty-four hours, having a consultation if necessary within the next two days and entering the hospital within the next succeeding two days. This avoidance of a year's delay will result in saving numerous lives.

Except for caked breast in nursing mothers, applications of antiphlogistics, iodine or mercurial ointments, ichthyol or any other drugs or nostrums are valueless in causing real lumps to disappear and waste valuable time in arriving at a correct diagnosis. Rubbing and massage never benefit any breast lump, and as they cause early extension of cancer they should never be employed.

Only Hope Now Is in Early Treatment

Some day, which I trust is not far distant, we hope the cause of cancer will be discovered. We can then expect to discover either a means of preventing cancer or some new means of curing it even in its advanced stages. At the present time breast cancer is best treated by a combination of early, thorough operation and either radium or x-rays.

Numerous quack remedies are advertised but they never cure and while the patients are trying them out they lose their golden opportunity for effective treatment in the early curable stage.

Treatment in the late stages of cancer prolongs life and promotes comfort but rarely cures. To be truly effective in curing cancer, treatment must be given early. I sincerely trust that every one who reads these words will use his best endeavors to send cancer patients to hospitals at the earliest possible moment.

HYGEIA

THE HEALTH MAGAZINE

Published by the American Medical Association
535 North Dearborn Street, Chicago

Plain Facts about Health and Disease

MEDICAL INTOLERANCE

LOS ANGELES is the great stamping ground of cultism in America. The laws of supply and demand are unescapable; the climate of Southern California has made it a mecca for the old and infirm, for the sufferer from chronic disease, and for wealthy citizens whose chief aims in life are pleasure and relaxation. On this type the cultist, the faith healer and the promoter of quackery thrive.

The sufferer from chronic disease is eternally hopeful. He tries each new remedy that may be offered and feels for the moment that each of these remedies has helped him. His mind is obsessed with the "will to believe." Moreover, he wants his remedy entertaining as well as beneficial. What he wants, perhaps, as much as anything else, is a distraction of his attention. The aged begin to fear death and the hereafter. They seek escape from the purgatory and punishment which ancient religions taught were the portion of mankind when the spirit departs from the body. For this, faith healing and cults offer surcease. It is not surprising, therefore, that all the thirty-seven religious healing cults that exist in the United States should be available in Los Angeles, or that the dominant faith-healing cult of this country should have in that community more churches in proportion to the population than has any other place in our nation.

The considerations that have been here set forth were offered to the Los Angeles community by the editor of HYGEIA in a recent visit there. In various public expositions on Los Angeles quackery, particular attention was paid to the fact that the Los Angeles *Times* promotes two health writers—one Frank McCoy, a "physculpractor" whose record has been fully revealed in various articles in HYGEIA, and one Philip Lovell, who is a doctor of naturopathy and whose writings in the Los Angeles Sunday *Times* contain more unscientific information to the linear inch than can be found in any other publication in America.

The Los Angeles *Times* in an editorial insists that the medical profession is intolerant of other methods of healing and attempts to convey the impression that the views expressed by the editor were not those of scientific medicine. Fortunately, scientific medicine and the public health seem to have in another California newspaper a champion of no mean proportions. The article in the Los Angeles *Times* was promptly answered by Chester H. Rowell of the San Francisco *Chronicle* and the Los Angeles *Express*. His statement so decisively depicts the exact differences between cultism and science that every reader of HYGEIA should be familiar with his point of view. His text is an answer to all the arguments of all the peculiar healers who parade the borderland between truth and folly.

Mr. Rowell states in part:

> But the appeal for "tolerance," by one "school" of another, is an example of a common fallacy. There is no "tolerance" of astrology by astronomers. There is no "tolerance" of fortune-telling by psychologists, nor of perpetual motion inventors by physicists. Geologists do not locate oil or water by dousing with a forked stick, nor "tolerate" those who would exterminate insect pests by interfering with their spontaneous generation. Scientific agriculture does not "tolerate" the theory that potatoes grow wrong unless planted in the dark of the moon. All these "schools" exist, and they are all rejected outright as unscientific superstitions by every scientist in the world.
>
> On the other hand, good Catholics tolerate Holy Rollers, and Buddhists tolerate the Mormons. Atheists tolerate the faith of Christians and Christians the unfaith of atheists. Protestants and Christian Scientists tolerate each other's religion, each respecting the right of the other to seek God in his own way. But the law of the land did not tolerate polygamy, when the Mormons said it was religion, and the regents of the University of California do not permit an anti-vaccinationist student to endanger the health of other students, even though he calls his objection religious.

So in medicine. If it were a matter of faith, dogma or canons, one "school" should "tolerate" another. If it is a matter of science, then the only distinction is that of scientific and unscientific. And between science and nonscience, there is no equality of right, and no basis for tolerance. The fact that millions of devout people in India believe in casting their horoscopes by the stars does not erect them into a "school" of astronomy, nor impose on astronomy any obligation to recognize them. They are neither regular nor "irregular" astronomers—they are not astronomers at all. Neither is any unscientific theory or practice of healing any part of the science of medicine. There are only two sorts of medicine, scientific and unscientific. And of the unscientific "schools," science has only this to say—that they are unscientific.

How then shall we distinguish which principles and practices of healing are scientific, and which are not? The simplest test is that which we unhesitatingly apply in every other branch of knowledge. That is the judgment of scientists. If the scientists say a certain thing is scientific we accept it as such. If they all say it is unscientific, we say likewise, at least until it has succeeded in convincing them. Every scientific university in the world teaches astronomy and not one teaches astrology. All of them teach chemistry and not one teaches alchemy. Every university in the world teaches scientific medicine, and not one of them —not a single one, in the whole world—teaches or recognizes any of the "schools" or sects for which the Times speaks. If the unanimous voice of science means anything—this is its verdict.

The next test, and the decisive one, is that of method. Scientists may be mistaken, sometimes, in their results and conclusions. Sometimes a thing which seems true in the light of incomplete information becomes only partly true in the light of later discoveries. But science is not mistaken in its method. That method is systematic observation and experiment, and the submission of these observations and experiments to the scientists of the world, for them to repeat, to test and to criticize. Whatever pursues that method and is approved by that test is scientific—including in medicine, light rays for tuberculosis, diet for many ailments, and hydrotherapy for certain mental conditions. Whatever does not proceed by that method or fails by that test is unscientific—including all the cults, sects and schools which Dr. Fishbein rejects and the Times defends.

AMERICAN COLLEGE ATHLETICS

IN ITS survey of American College athletics, the Carnegie Foundation for the Advancement of Teaching made a special study of all the available literature regarding various aspects of college athletics. A special committee, headed by Dean F. Smiley, medical adviser of Cornell University, was concerned with the hygiene of athletic training. This committee included some of the leading authorities on nutrition and hygiene in our country. It has recognized that physiologic health includes mental, emotional, moral and social health, and that college athletes should be adapted to apply to all these aspects of the healthful life.

Apparently some 25 per cent of all male students engage in intercollegiate athletics and about 53 per cent in intramural athletics—a total of 78.9 per cent of all of the students in the school. Basketball is the sport most indulged in; baseball and track athletics follow; football is fourth. Obviously the injuries that affect athletes are related to the nature of the sports in which they indulge.

In its survey of the available literature on the subject, the Carnegie Foundation has gathered a series of abstracts from various sources and it presents them as a bulletin, entitled, "The Literature of American School and College Athletics." This literature indicates that the excitements of competitive sports have emotional effects of importance on both the player and the spectator. According to Dr. Walter B. Cannon, no sport requires more sustained and extreme display of intramuscular effort than American football, and the conditions that surround the contest conspire to arouse in the player excitements that would bring forth very efficiently the bodily reserves that the game requires. It is recognized that the human body has important factors for prompt repair and adjustment after unusual effort, but actually no one knows what the late effects of repeated excitation actually are. To know this would require investigations carried on over a period of many years into the lives of a great number of men who had participated in college football as compared with men who had not undergone such strenuous and nerve shattering performances before manhood.

Physicians are just beginning to recognize the fact that heart disease is the most important among the causes of death after middle life and to develop methods of defining accurately the limitations that should be placed on heart strains. German investigators doubt whether any neurotic person should be permitted to undergo the excitement of competitive contests. This does not bespeak the elimination of competitive athletics. It does demand more careful consideration of the study of the health of those who undertake intercollegiate competition.

The old idea that athletes whose work was valuable to the team should be sent into the game in some fashion has given way to a more and more rational attitude. Coaches realize that a mediocre man in good health is practically of more value to the team than a damaged star. After all, the prime consideration must be given to the life of the individual rather than to the needs of the team. Intercollegiate athletics should be but a passing phase in the development of a useful citizen. If athletic sports injure men for life, damage their mental and physical health, or in any other way handicap them in the long race for success that comes after school days have passed they are not fulfilling their proper function and the game is not worth the candle.

THE SIGNS OF TUBERCULOSIS

WHEN the National Tuberculosis Association studied the records of 1,499 patients in sanatoriums to find out what caused them to consult a physician concerning their symptoms, it was discovered that about 57 per cent did not consult a physician until at least one month had elapsed from the time the first symptom appeared. Again and again physicians who are attempting to educate the public in the prevention of disease find themselves compelled to repeat the warning against delay. Many conditions controllable if seen in their earliest stages go on to death inevitably if they are not taken in time. By means of pamphlets, posters, magazine and newspaper articles, motion pictures, lectures, radio announcements and every other means of publicity known, all the health agencies of this country have been warning people to obtain medical attention promptly on the appearance of any of the symptoms that may be significant of tuberculosis.

Tuberculosis may begin in a wide variety of ways. Cough, expectoration of sputum containing the germs of tuberculosis, hemorrhage from the lungs, fever, chills, night sweats, fatigue and loss of weight are symptoms known to every one. By the time these symptoms appear, however, the small spot in the lung that is tuberculous may already be far advanced. Tuberculosis like many other chronic conditions not infrequently begins insidiously and develops gradually. When the patient is questioned it is found that he has been feeling tired after slight effort for some time or that he has been having a slight cough.

One widely known authority on tuberculosis has pointed out that if a careful history were taken of every patient with the disease it would be found that there had been loss of strength and endurance, loss of appetite, decline in weight, increasing nervousness, vague pains throughout the chest, slight tendency to cough, repeated colds and shortness of breath on exertion for some time previous to the obtaining of medical advice.

The symptoms that have been enumerated must direct attention especially to the chest. If in addition there is some fever, a special study must be made for the presence of tuberculosis. The earliest signs within the lung are found by all the methods of physical examination, including listening, thumping, feeling, or, scientifically, auscultation, percussion and palpation. Then the x-ray helps to visualize the changes and the laboratory makes the search for the germs. Special reactions in the skin and blood may help the diagnosis. In the earliest stages good food, good air, rest, and suitable modes of life may aid prompt arrest of the disease.

MAGICAL MEDICINE

"SUPERSTITION is the encroachment of faith on the rights of reason and knowledge," said Sir Robert Armstrong Jones in his presidential address last November to the section of psychiatry of the Royal Society of Medicine. Today we are attempting to find out the precise causes of maternal mortality in childbirth. But in some parts of Ireland there are still persons who believe that deaths of young mothers should be attributed to the fairies, who steal them away to nurse the fairy infants. It has long been believed, too, that babies were stolen by the fairies, especially when they had not been christened, to take the place of fairy babies that had been paid as tribute to the evil overlord of fairyland. In the Middle Ages it was supposed that deformed or afflicted children were changelings, substituted by trickery, and that to regain the true child from its abductors the changeling must be burned.

Much cruelty also resulted from the superstitious belief that insanity was due to demoniac possession. In such cases the priest was the natural physician, and when appeal was made to him, the unfortunate subject of mental disease might be tied to a pillar or tree or be belabored with whips and staves in order to persuade the devil to leave. Sometimes the patient would be tied to holy objects and kept there all night while prayers and incantations were offered for his restoration. Or he might be treated by "bowssening"; that is, by drenching him in holy wells. In case the devil might seek refuge in the hair after immersion, the patient was plunged into the water over his head and detained there almost to the point of drowning.

Other cures practiced in these times were less painful but perhaps no more effective, and a mistaken belief in their validity must have delayed the discovery of scientific remedies. The repeating of the litany nine times would, by virtue of this magic number, cure such diseases as ague, epilepsy, whooping cough, blindness and rheumatism. Snails were empaled for nine nights to cure warts.

Today methods just as unscientific as these, though perhaps more profitable to the purveyors of modern magical medicine, are promoted in many parts of our own country. The human being is a credulous animal whose mind inclines to believe rather than to question.

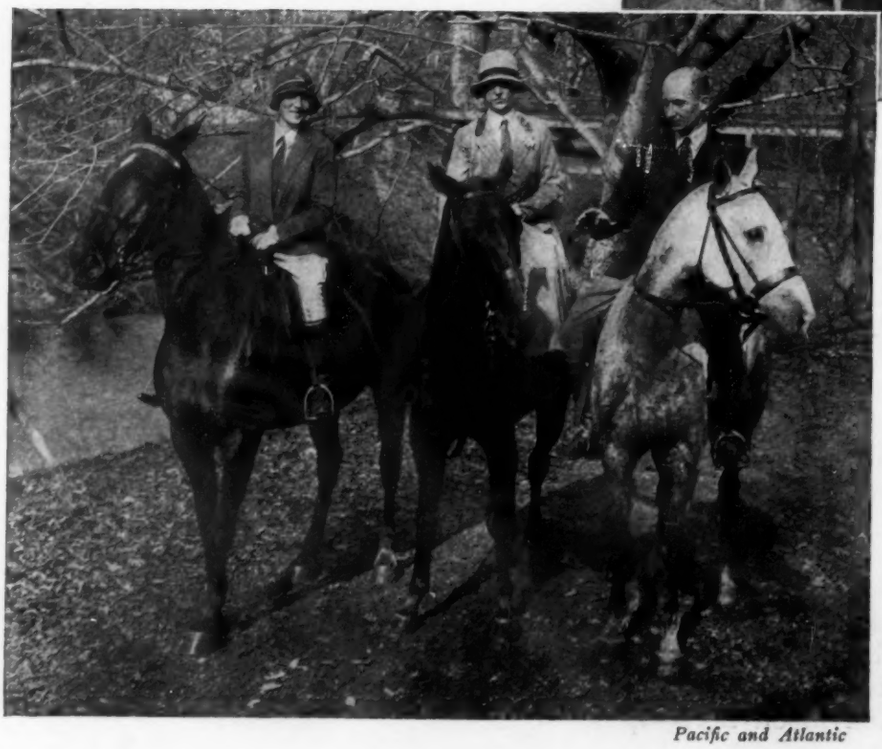
FLORIDA CHILDREN HOLD BUBBLE BLOWING CONTEST AT MIAMI BEACH.

Pacific and Atlantic

A LESSON IN FOOT WASHING

A school for girls on modern lines, newly opened in Berlin, tops gymnasium periods with a special ceremony of hygienic foot washing.

Pacific and Atlantic



MEMBERS OF THE DIPLOMATIC CORPS ENJOY A MORNING CANTER in beautiful Rock Creek Park in Washington, D. C.

Pacific and Atlantic

Pacific and Atlantic

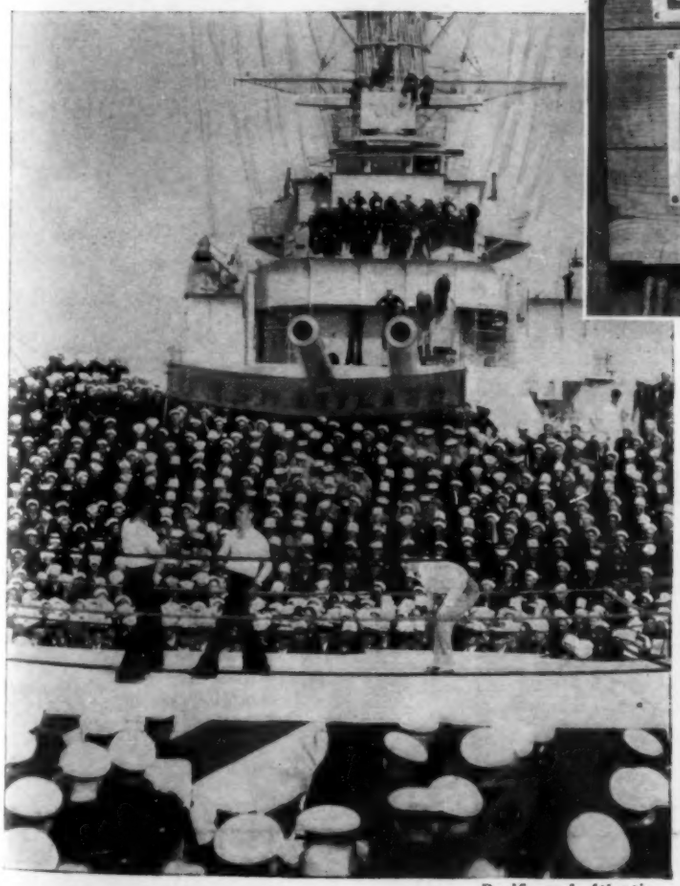
HEALTHY AMERINDS

The Indian race is not doomed to extinction if these husky little specimens are representative. The chubby dark-skinned youngster in the doctor's arms is Tomika Osceola of the Seminole tribe in the Everglades of Florida. Tomika, descendant of that Osceola who led a revolution 100 years ago, won first prize in an Indian baby health contest.

SAFE BUILDING

Taking safety admonitions to the workmen on the job is the purpose of this bulletin among the beams and girders of the new Chrysler Building in New York.

Underwood and Underwood



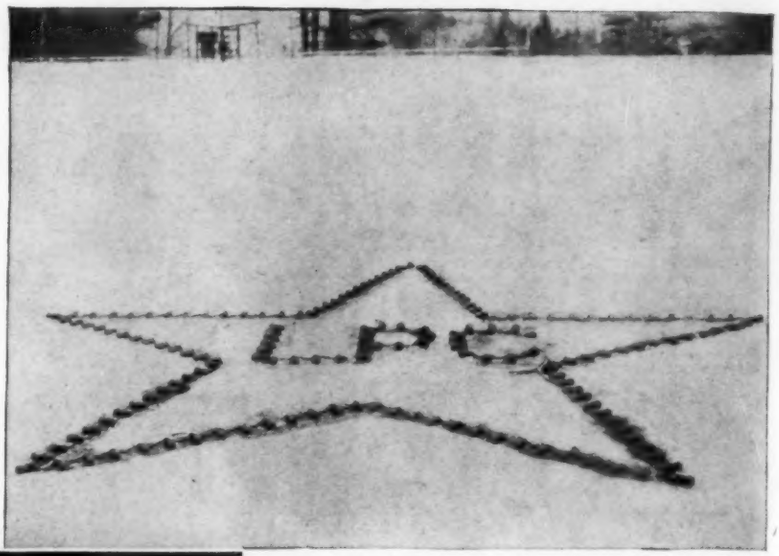
Pacific and Atlantic

WHEN SAILORS FALL OUT

The fistic method of settling differences is favored by sailors, they say. Two are shown indulging their pugnacious instincts under the shadow of the big guns on the U. S. S. Maryland, stationed in Chinese waters.

LIGHT ON WINTER SPORT

Skating enthusiasts at Lake Placid, N. Y., enjoyed a novel piece of illumination produced by electric lights from under the ice. The picture at the right shows how the bulbs were embedded in the ice; below, the dazzling effect.



Underwood and Underwood

VETERAN OF MALARIA FIGHT

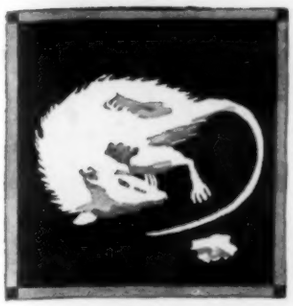
For five years Sir Ronald Ross, a British medical officer, worked in his laboratory in India examining the stomachs of mosquitoes before he found the incriminating malarial pigment he sought. This was in 1897. The picture shows Sir Ronald as he appeared at a recent meeting of planters who spent a time in London studying malaria control under authorities on tropical disease.

Underwood and Underwood

Pacific and Atlantic

BLOOD TELLS

May Sutton was the Helen Wills of her day and is still a tennis luminary. This picture introduces her niece, Violet Doeg, playing in the Los Angeles junior tennis championship match. Violet's brother Johnny shows tennis blood as well; he holds the national senior doubles and national junior singles championship.



Posie

Elsa and Her White Mouse

Rosie

By

Blanche J. Dearborn

ONE morning before school opened Miss Kingston, the principal of Bailey School, came in for a short visit with Miss Brant, the pretty little substitute teacher in room 3. When Miss Kingston left Miss Brant turned to the children.

"I have some news for you," she said. "Miss Moore has decided not to return this year and Miss Kingston has asked me to stay."

Wide smiles appeared on every face and some of the children so far forgot themselves as to dance a hornpipe of joy, but every one remembered to do it silently so as not to embarrass their dear Miss Brant.

Miss Brant was as pleased as the children, but of course she did not show it. Instead she said, "I am sure we are all very sorry that Miss Moore is not well, and I know we hope she will enjoy her vacation and come back rested."

"Yes'm," said every child dutifully, but mischievous Janet Thorne crossed her fingers while she said it, because she just could not forget how often Miss Moore had scolded her for laughing.

"Now I shall have time to find out more about poor, stupid, little Elsa and my crosspatch James," exulted Miss Brant. "I do hope I can discover their secret."

In room 3 Miss Brant and all the children went home for their luncheon except Elsa and Janet. Janet was as quick as Elsa was slow and Miss Brant often wondered at their close friendship.

One day Miss Brant brought her lunch. At noon time she said, "I have my lunch today, may I eat with you?"

"Goody, goody, goody!" said both little girls at once. "What fun we shall have."

All the other children wished immediately that they had brought their lunches too. Miss Brant and the little girls sat down on a settee in the sunniest window. "I want this side," said Janet plumping herself down first.

"This side's just as good," said Elsa composedly, seating herself.

"Elsa does have the best lunches," said Janet with a little pout. "Her mother gives her bread spread thick with sugar and jelly and lots of times she has cake, cookies and pies all in one day."

Elsa opened her box with a satisfied air and, indeed, it did reveal a tempting display. There were cinnamon rolls and white bread with maple sugar fairly oozing out between slices. There was a lemon pie with thick white frosting, two slices of cakes glistening with black chocolate and three sugar cookies.

"You can have your choice of anything you want," said Elsa lovingly, as she snuggled closer to her teacher.

"Oh, thank you," said Miss Brant, "I will just take this little cookie; it does look so tempting."

"They are good," said Elsa proudly. "My mother's a wonderful cook."

"Indeed she must be," said Miss Brant warmly.

Janet opened her lunch with a discontented air. Miss Brant took a little peep.

"Oh, brown bread sandwiches with nuts and cheese!" she said. "How good they look, and that cup custard fairly makes my mouth water."

"I'd rather have cake and pie," said Janet crossly. "I keep telling mother so, but I guess she forgets it, because I almost always have nothing but fruit and cookies or custards."

Just then Elsa passed a cup to Miss Brant. "Will you have some of my coffee?" she said. "It's nice and hot, right out of my thermos bottle."

"No, thank you, dear," said Miss Brant. "I have a bottle of milk. I like milk very much, don't you?"

"No," said Elsa. "I don't like milk, so mother makes me the coffee. She says something hot is good for me."

"So it is," said Miss Brant. The three had a merry time over their lunch and the girls were sorry to have Miss Brant go back to work.

The next morning Miss Brant came to school with a little box. "Oh, what's in it?" cried all the children gathering around her. Miss Brant opened the box and every one looked in.

"Oh, oh, white mice!" they cried in delight.

"Yes," said Miss Brant, "and since Elsa and Janet have to eat lunch here alone every day I thought I would let each one have a mouse for her own, but of course we can all watch and play with them. I thought perhaps Janet and Elsa could each spare enough from her lunch every day to feed one little mouse."

"Oh, we can, we can!" cried both little girls. "And we shall just love to do it."

Miss Brant had two little cages, one for each mouse. One cage was painted blue and one a creamy yellow.

"Oh, I want the blue one," said quick Janet. "Do you care, Elsa?"

"No," said Elsa, "I would just as soon have the yellow one."

"What shall we call the mice, Miss Brant?" asked the children.

"How would Rosie and Posie do?" said Miss Brant with a laugh.

"Oh, that would be fine. Mine can be Rosie and yours Posie," said Janet.

"All right," said Elsa.

"Each one must take all the care of her own mouse," said Miss Brant.

"We will," promised the girls. "Posie shall have all the cake and sugar she wants," added Elsa.

"Rosie can't have such nice things," said Janet with a sigh, "but I can give her all she wants, such as it is."

"I think she won't mind," said Miss Brant.

Every day the children watched the mice. What fun it was to see them run around their cages! They grew so tame they would run over the hands of the children, but no one ever fed them except Elsa and Janet.

One morning when the mice had been at school two weeks Elsa in great distress ran to Miss Brant.

"Oh, Miss Brant," she cried, "Posie's all curled up in her corner and she won't eat anything. Oh dear, I am slow and stupid and everything that belongs to me grows that way," and big tears stood in her eyes.

"How's Rosie?" asked Miss Brant.

"Oh, she's lively and quick just as Janet always is. Did you know that even mice resemble the people that care for them?" And this time the tears fell.

"I didn't know it," said Miss Brant gently. "Let's have a look at Posie." She went to the side of the yellow cage and there in one corner was poor little Posie.

The little white mouse's fur was rough and tumbled looking, her little pink eyes were dull and half-shut.

"Oh dear, oh dear!" sobbed Elsa. "She won't even drink my coffee this morning, and she has every other day."

Miss Brant took sick little Posie in her hand. She could not even stand up, her legs were so weak. They went over to Rosie's cage where Janet was just giving her some breakfast. She had poured some milk from her bottle into a cup and she was crumbing a little brown bread in it. In one corner was Rosie nibbling away at a piece of lettuce.

"Oh, what's in it?" cried all the children gathering around.

Her fur was as smooth as silk and her little eyes bright as a new pink pin. She cocked her head on one side and wiggled her whiskers as if to say, "Good morning, everybody. I am much too busy eating to stop and play now."

"I wonder if you would lend Posie just a little of your bread and milk and perhaps a piece of lettuce?" asked Miss Brant.

"Of course," said Janet and she poured half of the bread and milk into Posie's dish and pulled another piece of lettuce from out of her lunch box.

"She won't eat, I just know she won't," sobbed Elsa. "She won't even touch frosted cake."

Miss Brant held Posie gently in her hand and taking a piece of the bread and milk in her fingers held it to Posie's nose. At first she didn't move and then feebly opening her mouth she took a bite and swallowed it down her poor little throat.

Elsa kept still a long, long time.

"She's eating! She's eating!" cried all the children.

Miss Brant gently fed her several more mouthfuls, then she put her back in the cage. She put the cup of bread and milk in, too, and the lettuce close by her nose.

Suddenly in the middle of the reading class, Tom Bannon cried out, "She's eating. Posie is eating her lettuce."

Elsa had her head on her desk crying but now she looked up and, sure enough, there was Posie standing on her own four legs eating away at the lettuce. By noon Posie was running around as lively as ever.

After school that night Elsa crept to Miss Brant's side.

"Do you think it was what Posie ate that made her sick?" she asked shyly.

"I think it must have been," answered Miss Brant gravely.

"Was it that that made her act so stupid?" asked Elsa.

"I am sure it was," said Miss Brant gently. Elsa kept still a long, long time. Then she said, "Good night, Miss Brant." She went to the yellow cage. "Good night, Posie," she said, and very, very softly Miss Brant heard, "Tomorrow you shall have a good breakfast."

Early the next morning Elsa came to school almost before Miss Brant. Not another child was there and she took her basket to Miss Brant.

"I want you to see my lunch," she said, "and decide if you think it will be good for Posie. I have some hot tomato soup instead of coffee—Mother wants me to have something hot—I have some milk for Posie and I am going to learn to drink milk too."

"Posie can have milk for breakfast and soup for lunch," said Miss Brant. "That will be good for her."

Elsa poured a little milk into Posie's dish. Posie stuck her nose in and drank it all up. Then she scampered around the cage three times to show how lively she felt. In fact, she never stopped running until she ran smack into a slice of carrot Elsa was putting through the wires. Then she stood up on her hind legs and took the carrot in her front paws, and how she did nibble! "No more frosted cake and white bread for me!" she seemed to say.

Every day Elsa brought a lunch that would be good for Posie and in a week Posie's coat was as smooth and glossy as satin, even to the last hair on her tail, and how she did run around her cage!

What was stranger still, Elsa began to be able to read and spell, until after a little she was almost as quick as Janet. The last month of school Miss Brant offered a prize for the child that could get the most one hundreds in spelling, and what do you think? She had to buy two prizes because Elsa and Janet ranked the same.

(Continued from page 232)

Alice was every one's pet when she was in the hospital. Keeping her on a strict diet was a simple matter during her stay, but it was doubtful if, when she was at home, she would be able to resist the temptation of candy and the other goodies so dear to the hearts of all children. The diet was explained carefully to Alice's mother, and when the child left we felt sure she was safe in her mother's hands.

Then the time came for her to go back to school, and her self-control was tested. She never talked about food and ate only the things prepared by her mother. One afternoon she came home from school with a little package that looked much like cookies. She said nothing, however, and her wise mother did not question her. She put down her books, played with her brothers for a while, and then picking up the package went outside. A few minutes later her mother saw Alice sitting on the porch with her puppy, feeding him sugar cookies. When her mother went out on the porch, Alice said to her, "Mother, the other girls were buying cookies so I bought some too and brought 'em home to Browner."

Mrs. Carlson, with a severe case of diabetes, tells the dietitian of her home difficulties with dieting: "It's 'ma—poor ma—why, poor ma doesn't get a thing to eat—come on, ma—you might as well eat a piece of pie.' The first thing you know I'm eating everything, and you're so interested in me and the hospital really cares about me—I'm just ashamed of myself. I'm going to start over again."

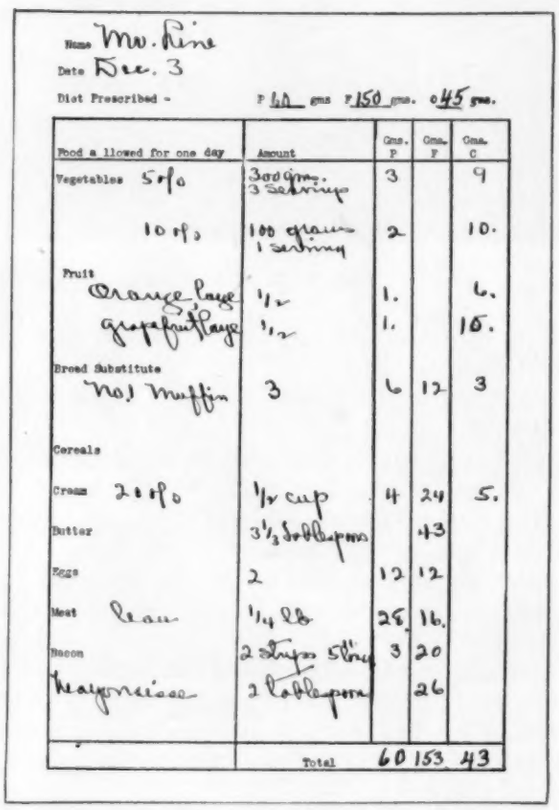
Mrs. Johnson, colored, came into the hospital last April with a blood sugar of 400 milligrams. She was a pretty sick woman and also a well frightened one, as a friend of hers had recently died from diabetes. At first she was a doubtful subject for the dietitian's tender ministrations as she claimed to have been "brought up refined" and absolutely refused to come to demonstrations in the regulation dressing gown worn by the ward patients. It took patience to help her with the arithmetic involved in mastering her diet and progress was slight. Finally one day the dietitian said, "Mrs. Johnson, you don't seem to like arithmetic." Mrs. Johnson replied, "No, ma'm, I ain't jest what you might call strong on arithmetic, but I'se a great public speaker. I leads prayer meetin's."

The "great public speaker" was discharged in about three weeks sugar free and with a blood sugar of 120 milligrams. She promptly celebrated her return to the domestic fireside by eating a cake. Luckily this happened the day before class and the consequences were visible. Mrs. Johnson was much embarrassed—not at the sin itself, alas, but at the sin of being found out.

"To tell de truth, ma'm, I didn't just follow de 'structions" she admitted. "I'll be good now." And she has been. For nearly a year now the test has been clear and the blood sugar normal. Recently Mrs. Johnson was told that it would be necessary for her to come to class only once a month, for observation, and she was put on a very liberal diet.

"You may have a little bread now—only remember, not too much," said the dietitian. "No, ma'm," returned Mrs. Johnson, "that there diabetes treatment brought me back from the brink of the grave and I ain't takin' no chances on nothing else. No bread for me."

The forms used in this hospital by the dietitian in interpreting the doctor's prescription in terms of food suitable to the individual patient are like the following:



Name Mr. Rine
Date Dec. 3
Diet Prescribed - P 40 gms P 150 gms. C 45 gms.

Food allowed for one day	Amount	Gms. P	Gms. F	Gms. C
Vegetables 5 p/o	300 Gms. 3 Servings	3		9
10 p/o	100 grams 1 serving	2		10.
Fruit Orange Large	1/2	1.		6.
grapefruit Large	1/2	1.		15.
Bread Substitute No 1 Muffin	3	6	12	3
Cereals				
Cream 2 t p/o	1/2 cup	4	24	5.
Butter	3 1/2 Tablespoons		43	
Eggs	2	12	12	
Meat lean	1/4 lb	28	16.	
Bacon	2 slices 5 thin	3	20	
Mayonnaise	2 tablespoons		26	
	Total	60	153	43

TABLE 1.—*Menu for December 3*

	Food	Amount
Daily	Cream, 20 per cent	½ cup
	Butter	3⅓ tablespoonfuls
Breakfast	Grapefruit	½
	Egg	1
	Bacon	2 strips
	Bran muffin No. 1	1
	Coffee	
Lunch	Salad: Egg	1
	Salad: Lettuce	¼ small head
	Salad: Mayonnaise	1 tablespoonful
	Celery	4 pieces, 5 inches long
	Spinach	⅔ cup
	Bran muffin No. 1	1
	Orange	½
	Coffee or tea	
Dinner	Steak	¼ pound
	Carrots	⅔ cup
	Salad: Cucumber	5 slices, ¼ inch thick
	Salad: Lettuce	¼ small head
	Salad: Mayonnaise	1 tablespoonful
	Bran muffin No. 1	1
	Coffee or tea	

TABLE 2.—*Menu for December 4*

	Food	Amount
Daily	Cream, 20 per cent	½ cup
	Butter	3½ tablespoonfuls
Breakfast	Orange	½
	Egg	1
	Bran muffin No. 1	1
	Coffee	
Lunch	Bacon	2 strips
	Egg	1
	Asparagus	⅔ cup
	Salad: Beets, chopped	½ cup
	Salad: Celery, chopped	⅓ cup
	Salad: Lettuce	¼ small head
	Salad: Mayonnaise	1 tablespoonful
	Bran muffin No. 1	1
	Grapefruit	¼
	Coffee or tea	
Dinner	Veal steak	¼ pound
	String beans	⅔ cup
	Beets	⅓ cup
	Bran muffin No. 1	1
	Salad: Grapefruit	¼
	Salad: Lettuce	⅛ small head
	Salad: Mayonnaise	1 tablespoonful
	Coffee or tea	

Patients are given the following recipes for preparing suitable foods. The protein, fat, carbohydrate content of each recipe is added, together with the number of calories present.

BRAN WAFERS

Materials:

- 1 cup washed bran
- 1 tablespoonful India gum
- ½ teaspoonful salt
- 3 tablespoonfuls mineral oil

Method:

1. Mix bran, India gum and salt
2. Add mineral oil
3. Add enough water to make a mixture that will spread easily
4. Spread on pan greased with mineral oil
5. Mark in squares
6. Bake in a slow oven until crisp

These wafers have no food value.

CREAM OF CELERY SOUP (One Serving)

Materials:

- 1 cup cut celery, cooked
- ⅓ cup water in which celery was cooked
- 2 tablespoonfuls thin cream
- Slice onion
- Salt and pepper

Method:

1. Rub celery through a strainer
2. Add water in which celery was cooked
3. Scald cream with slice of onion
4. Add celery to hot cream
5. Season with salt and pepper
6. Remove slice of onion
7. Serve at once

Total recipe: protein, 2 Gm.; fat, 6 Gm.; carbohydrate, 5 Gm.; calories, 82.

CREAM OF TOMATO SOUP No. 1 (One Serving)

Materials:

- ½ cup canned tomatoes
- 2 tablespoonfuls thin cream
- ⅛ teaspoonful baking soda
- Salt and pepper

Method:

1. Scald the cream
2. Strain the tomatoes and heat to boiling point
3. Add baking soda to the tomatoes
4. Combine the hot cream and tomatoes
5. Season with salt and pepper
6. Serve at once

Total recipe: protein, 2 Gm.; fat, 6 Gm.; carbohydrate, 6 Gm.; calories, 86.

LISTER'S EQUALIZED PANCAKES

Materials:

- 1 egg
- ⅛ teaspoonful salt
- ½ box Lister's Equalized Flour
- 1 tablespoonful butter

Method:

1. Beat egg
2. Add water
3. Add salt
4. Add Lister's Equalized Flour
5. Fry in butter

Total recipe: protein, 6 Gm.; fat, 19 Gm.; carbohydrate, 6 Gm.; calories, 219.

BRAN MUFFINS No. 1

Materials:

- 3 eggs
- 2 tablespoonfuls butter
- 1 level teaspoonful soda
- 2 cups washed and dried bran
- 1 cup sour milk or buttermilk
- ½ teaspoonful salt

Method:

1. Beat egg yolk
2. Melt butter and add to egg yolk
3. Mix soda and bran
4. Add bran and soda mixture alternately with sour milk to the egg yolk and butter
5. Add salt to egg whites
6. Beat egg white and fold into other materials
7. Put into muffin tins greased with mineral oil
8. Bake in hot oven until done
9. This makes twelve muffins weighing 30 Gm. each and giving approximately the following food value for each muffin:

One muffin: protein, 2 Gm.; fat, 4 Gm.; carbohydrate, 1 Gm.; calories, 46.

TABLE 3.—*Menu for December 5*

	Food	Amount
Daily	Cream, 20 per cent	½ cup
	Butter	3½ tablespoonfuls
Breakfast	Grapefruit	½
	Bacon	2 strips
	Bran muffin No. 1	1
	Coffee	
Lunch	Scrambled eggs	2
	Salad: Sliced tomato	1 small tomato
	Salad: Lettuce	1 leaf
	Salad: Mayonnaise	1 tablespoonful
	Cauliflower	⅔ cup
	Bran muffin No. 1	1
	Coffee or tea	
Dinner	Roast lamb	¼ pound
	Squash	⅔ cup
	Salad: Head lettuce	¼ large head
	Salad: Mayonnaise	1 tablespoonful
	Bran muffin No. 1	1
	Orange	1
	Coffee or tea	

BRAN MUFFINS No. 2

Materials:

- 2 eggs
- 2 tablespoonfuls butter
- 1 level teaspoonful soda
- 2 cups bran
- 1 cup sour milk or buttermilk
- ½ teaspoonful salt

Method:

1. Beat egg yolks
2. Melt butter and add to egg yolk
3. Mix soda with bran
4. Add bran and soda mixture alternately with sour milk to the egg yolk and the butter
5. Add salt to egg whites
6. Beat egg white and fold into other materials
7. Put into muffin tins greased with mineral oil
8. Bake in hot oven until done
9. This makes twelve muffins weighing 30 Gm. each and giving approximately the following food value for each muffin:

One muffin: protein, 2 Gm.; fat, 3 Gm.; carbohydrate, 1 Gm.; calories, 38.

CREAM OF CAULIFLOWER SOUP (One Serving)

Materials:

- 1 cup cooked cauliflower
- ¼ cup chicken or beef stock or water in which cauliflower was cooked
- 2 tablespoonfuls cream
- Slice of onion
- Salt and pepper

Method:

1. Rub cauliflower through a strainer
2. Add water in which cauliflower was cooked or broth
3. Scald cream with a slice of onion
4. Add cauliflower to hot cream
5. Season with salt and pepper
6. Remove slice of onion
7. Serve at once

Total recipe: protein, 5 Gm.; fat, 7 Gm.; carbohydrate, 9 Gm.; calories, 119.

NUTRIVOID PANCAKES (One Serving)

Materials:

- 3 tablespoonfuls nutrivoid flour
- 1 tablespoonful washed bran
- ¼ teaspoonful baking powder
- ⅛ teaspoonful salt
- 1 egg
- 3 tablespoonfuls water
- 2 tablespoonfuls cooking fat

Method:

1. Mix dry ingredients together
2. Break egg into bowl and beat well
3. Add water
4. Add dry ingredients
5. Put cooking fat on griddle
6. When melted drop pancake mixture by spoonfuls on griddle
7. When brown on one side turn over
8. Serve with butter

Total recipe: protein, 6 Gm.; fat, 33 Gm.; carbohydrate, —; calories, 318.

PUFFY OMELET (One Serving)

Materials:

- 1 egg
- 1 tablespoonful butter
- Small amount parsley

Method:

1. Separate egg yolk and white
2. Beat yolk until smooth
3. Beat white until stiff
4. Fold white into yolk
5. Put butter in small frying pan
6. When butter is hot, pour in the egg and cook over a low flame until thoroughly done
7. Fold one half over the other
8. Place on hot platter and garnish

Total recipe: protein, 6 Gm.; fat, 19 Gm.; carbohydrate, —; calories, 195.

BAKED CUSTARD NO. 1 (Two Servings)

Materials:

- 1 egg
- ⅓ cup cream
- ⅓ cup water
- ½ teaspoonful vanilla
- ½ grain saccharin
- Pinch of salt

Method:

1. Beat egg slightly
2. Scald cream and water
3. Pour slowly over egg, stirring constantly
4. Add saccharin dissolved in vanilla and the salt
5. Pour into two custard cups
6. Set custard cups in a pan of hot water and bake in moderate oven until firm

Total recipe: protein, 9 Gm.; fat, 21 Gm.; carbohydrate, 3 Gm.; calories, 237.

One serving: protein, 5 Gm.; fat, 11 Gm.; carbohydrate, 2 Gm.; calories, 118.

BLACKBERRY COBBLER (Two Servings)

Materials:

- 1 egg
- ⅛ teaspoonful salt
- ¼ grain saccharin
- 1 tablespoonful cream
- 1½ tablespoonfuls nutrivoid flour
- ½ cup blackberries

Method:

1. Separate yolk from white of egg
2. Add salt to white and beat until stiff
3. Add saccharin dissolved in cream to egg yolk and mix well
4. Add nutrivoid flour
5. Fold in beaten egg white
6. Put blackberries into greased baking dish
7. Pour nutrivoid mixture over berries
8. Bake in hot oven until firm

Total recipe: protein, 8 Gm.; fat, 9 Gm.; carbohydrate, 8 Gm.; calories, 145.

One serving: protein, 4 Gm.; fat, 5 Gm.; carbohydrate, 4 Gm.; calories, 72.

SOUR BUTTERED BEETS (Two Servings)

Materials:

- 2 tablespoonfuls butter
- 2 teaspoonfuls lemon juice
- 1⅓ cups cooked, diced beets
- Salt and pepper

Method:

1. Melt butter in a frying pan
2. Add lemon juice and stir until well blended
3. Add beets and mix well with the sauce
4. When well mixed and heated add salt and pepper
5. Serve very hot

Total recipe: protein, 3 Gm.; fat, 26 Gm.; carbohydrate, 20 Gm.; calories, 326.

One serving: protein, 2 Gm.; fat, 13 Gm.; carbohydrate, 10 Gm.; calories, 163.

FLEMISH CARROTS (Two Servings)

Materials:

- 1 tablespoonful cooking fat
- ½ tablespoonful chopped onion
- 1⅓ cups cooked sliced carrots
- Salt and pepper
- ¼ cup chicken broth
- ½ teaspoonful chopped parsley

Method:

1. Melt fat in frying pan
2. Brown onion in fat
3. Add carrots, salt and pepper
4. Add broth, cover and simmer ten minutes
5. Add chopped parsley

Total recipe: protein, 3 Gm.; fat, 14 Gm.; carbohydrate, 22 Gm.; calories, 226.

One serving: protein, 2 Gm.; fat, 7 Gm.; carbohydrate, 11 Gm.; calories, 113.

LISTER'S EQUALIZED CHOCOLATE NUT COOKIES (Twelve Cookies)

Materials:

- 1 egg
- 2 tablespoonfuls melted butter
- ⅓ square unsweetened chocolate
- 4 tablespoonfuls cream
- 2 tablespoonfuls water
- 1½ grains saccharin
- 1 teaspoonful vanilla
- ⅛ teaspoonful salt
- 1 box Lister's Equalized Flour
- 3 tablespoonfuls chopped walnuts

Method:

1. Beat egg
2. Add melted butter
3. Melt chocolate over hot water and add to egg and butter
4. Add cream and water
5. Add saccharin dissolved in vanilla
6. Add salt, Lister's Equalized Flour and chopped nuts
7. Drop on greased pan and bake in a moderate oven

One cookie: protein, 1 Gm.; fat, 5 Gm.; carbohydrate, 2 Gm.; calories, 57

FRIED CHICKEN (One Serving)

Materials:

- 1 nutrivoid muffin
- ½ egg
- Salt and pepper
- 2 pieces of chicken 3 by 3½ by ¼ inches
- 2 teaspoonfuls butter

Method:

1. Crumble muffin and brown the crumbs in the oven
2. Beat egg, add salt and pepper to season
3. Dip chicken in egg, then in muffin crumbs
4. Fry in butter

Total recipe: protein, 17 Gm.; fat, 23 Gm.; carbohydrate, —; calories, 275.

STRAWBERRY ICE CREAM (Three Servings)

Materials:

- 1 teaspoonful gelatin
- 1 cup thin cream
- 1 grain saccharin
- 1 teaspoonful water
- 1 cup strawberries

Method:

1. Soak gelatin in 1 tablespoonful cream
2. Scald balance of cream in double boiler
3. Pour over gelatin and stir until dissolved
4. Add saccharin dissolved in 1 teaspoonful water
5. Cool
6. Partially freeze
7. Add strawberries that have been crushed
8. Finish freezing
9. Pack in ice and salt until time to serve

Total recipe: protein, 11 Gm.; fat, 49 Gm.; carbohydrate, 19 Gm.; calories, 561.

One serving: protein, 4 Gm.; fat, 16 Gm.; carbohydrate, 6 Gm.; calories, 187.

ESCALLOPED CABBAGE (Four Servings)

Materials:

- 4 cups raw chopped cabbage
- 1 egg
- 2 teaspoonfuls salt
- ½ teaspoonful pepper
- 2 tablespoonfuls butter

Method:

1. Put 3 quarts of water in large kettle; when boiling add cabbage
2. Boil cabbage until tender—about twenty minutes
3. Pour off water
4. Place cabbage in a baking pan
5. Add salt and pepper to cabbage
6. Beat egg and pour over top of cabbage
7. Dot butter over top of cabbage
8. Bake in a moderate oven from ten to fifteen minutes

Total recipe: protein, 10 Gm.; fat, 33 Gm.; carbohydrate, 16 Gm.; calories, 399.

One serving: protein, 3 Gm.; fat, 8 Gm.; carbohydrate, 4 Gm.; calories, 99.

LEMON PUDDING

Materials:

- ⅔ teaspoonful gelatin
- 2 tablespoonfuls cold water
- 1 egg yolk
- 6 tablespoonfuls boiling water
- ½ teaspoonful grated lemon rind
- 4 teaspoonfuls lemon juice
- ¼ grain saccharin
- 1 egg white

Method:

1. Soak gelatin in cold water
2. Beat egg yolk
3. Add the boiling water slowly to egg yolk
4. Add lemon rind to this mixture
5. Cook in double boiler until mixture begins to thicken
6. Add soaked gelatin and stir until it is dissolved
7. Dissolve saccharin in lemon juice
8. Add to hot mixture
9. Beat egg white very stiff and fold it in other mixture
10. Pour into mold
11. Put in a cool place until firm

Total recipe: protein, 8 Gm.; fat, 6 Gm.; carbohydrate, —; calories, 88.

CANNED PEACHES (Cold Pack)

Materials:

- Peaches
- Saccharin

Method:

1. Scald peaches for one minute
2. Plunge into cold water
3. Drain
4. Remove skins
5. Cut peaches in halves and discard stones
6. Pack into sterilized jars in overlapping layers
7. Add one grain saccharin to each quart jar
8. Fill jar with boiling water
9. Adjust rubbers and cover
10. Partly seal
11. Place in water bath
12. Allow to remain over heat twenty-five minutes
13. Remove from water
14. Seal
15. Invert till cool
16. Store in dry cool place

DRIED BEEF CREOLE (One Serving)

Materials:

- 2 slices dried beef (⅔ ounce)
- Boiling water
- 2 tablespoonfuls butter
- ½ medium sized onion, sliced thin
- 1 medium sized tomato
- ½ small green pepper
- Salt and pepper

Method:

1. Cut the dried beef into small pieces
2. Cover with boiling water
3. Let stand for two minutes, then drain
4. Melt butter in frying pan
5. Cook onion in butter until brown
6. Add tomato, green pepper and dried beef
7. Let cook till thick
8. Season with salt and pepper
9. Serve hot

Total recipe: protein, 8 Gm.; fat, 28 Gm.; carbohydrate, 9 Gm.; calories, 322.

LAMB STEW WITH VEGETABLES (Two Servings)

Materials:

- ¼ pound lamb shoulder cut into cubes
- ¼ teaspoonful India gum
- 1 tablespoonful cooking fat
- ⅓ cup sliced onion
- 1 cup boiling water
- ⅔ cup diced carrots
- ⅔ cup diced turnip
- ½ teaspoonful salt

Method:

1. Roll lamb in India gum
2. Heat cooking fat in stew pan
3. Brown lamb and onion in hot fat
4. Add boiling water
5. Cover with lid, and let cook very slowly till meat is tender
6. Meanwhile, cook carrots and turnips until done

Total recipe: protein, 20 Gm.; fat, 40 Gm.; carbohydrate, 24 Gm.; calories, 536.

One serving: protein, 10 Gm.; fat, 20 Gm.; carbohydrate, 12 Gm.; calories, 268.

BAKED HAMBURG AND TOMATO (One Serving)

Materials:

- 3 tablespoonfuls hamburg steak
- 6 tablespoonfuls canned tomato
- ¼ small onion
- Salt and pepper

Method:

1. Brown the hamburg in frying pan
2. Add tomato, chopped onion and seasoning
3. Put the mixture in a small baking dish
4. Bake in a moderate oven one-half hour

Total recipe: protein, 10 Gm.; fat, 4 Gm.; carbohydrate, 5 Gm.; calories, 97.

NUTRIVOID SPICE AND NUT CAKE

Materials:

- 2 eggs
- ¼ teaspoonful salt
- 1 tablespoonful melted butter
- 3 tablespoonfuls chopped walnuts
- 3 tablespoonfuls nutrivoid flour
- ⅛ teaspoonful nutmeg
- ¼ teaspoonful cinnamon
- 1 teaspoonful vanilla
- ½ grain saccharin

Method:

1. Separate egg yolks and whites
2. Add salt to whites and beat until very stiff
3. Beat yolks until thick and lemon colored and add saccharin
4. Add melted butter to egg yolks and beat well
5. Add chopped nuts
6. Fold this mixture into stiffly beaten egg whites.
7. Mix nutrivoid flour and spices and fold into eggs
8. Add vanilla
9. Pour in small bread tin or six muffin tins
10. Bake in moderate oven one-half hour
11. One loaf cuts into six slices

Total recipe: protein, 20 Gm.; fat, 42 Gm.; carbohydrate, 4 Gm.; calories, 474.

One serving: protein, 3 Gm.; fat, 7 Gm.; carbohydrate, 1 Gm.; calories, 79.

STRAWBERRY SHORTCAKE (Four Servings)

Materials:

- 2 eggs
- ½ grain saccharin
- 1 teaspoonful vanilla
- 3 tablespoonfuls nutrivoid flour
- ¼ teaspoonful salt
- 1 cup strawberries
- ¼ cup whipped cream

Method:

1. Separate eggs
2. Beat yolks well
3. Dissolve saccharin in vanilla and add to yolks
4. Add flour to yolks
5. Add salt to whites and beat until very stiff
6. Fold whites into flour mixture
7. Bake in slow oven in greased muffin tins one-half hour
8. When cool, split and serve with mashed strawberries sweetened with saccharin if desired
9. Garnish with whipped cream

Total recipe: protein, 14 Gm.; fat, 36 Gm.; carbohydrate, 12 Gm.; calories, 428.

One muffin: protein: 4 Gm.; fat, 9 Gm.; carbohydrate, 3 Gm.; calories, 107.

ESCALLOPED ONIONS (Two Servings)

Materials:

- 6 small onions
- Boiling water
- 2 tablespoonfuls chopped parsley
- 2 tablespoonfuls cream
- 1 tablespoonful butter
- ¼ cup bran muffin crumbs

Method:

1. Peel onions under water
2. Drain
3. Cover with boiling water, salted
4. Drain
5. Cover again with fresh boiling salted water
6. Cook until nearly tender
7. Drain
8. Place in small baking dish
9. Sprinkle with chopped parsley or green pepper
10. Add cream
11. Melt butter
12. Add muffin crumbs
13. Add buttered crumbs to onions
14. Bake twenty minutes in a moderate oven

Total recipe: protein, 5 Gm.; fat, 21 Gm.; carbohydrate, 23 Gm.; calories, 301.

One serving: protein, 3 Gm.; fat, 11 Gm.; carbohydrate, 11 Gm.; calories, 155.

PERFECTION SALAD (Four Servings)

Materials:

- 1 tablespoonful granulated gelatin
- ¼ cup cold water
- 1 cup boiling water
- ½ teaspoonful salt
- ¼ cup vinegar
- 1 tablespoonful lemon juice
- ½ grain saccharin
- 1 cup celery, chopped fine
- ½ cup chopped cabbage
- ½ cup chopped green pepper
- 2 small leaves lettuce

Method:

1. Soak gelatin in cold water
2. Add boiling water and stir until dissolved
3. Add salt, vinegar, lemon juice and saccharin dissolved in a little cold water
4. When cool stir in the chopped vegetables
5. Pour into individual molds and set in cool place
6. Serve on lettuce

Total recipe: protein, 11 Gm.; fat, —; carbohydrate, 8 Gm.; calories, 73.

One serving: protein, 3 Gm.; fat, —; carbohydrate, 2 Gm.; calories, 18.

BAKED STUFFED ONIONS (Four Servings)

Materials:

- 4 medium sized onions
- 2 cups water
- 4 ounces cooked ham
- Salt and pepper
- 2 tablespoonfuls butter

Method:

1. Peel onions and cook in boiling salted water till nearly tender
2. Drain and cool
3. Remove centers of onions
4. Chop fine
5. Add meat, salt and pepper
6. Fill cavity of onion
7. Place ½ tablespoonful of butter on each
8. Bake twenty minutes in moderate oven

Total recipe: protein, 28 Gm.; fat, 53 Gm.; carbohydrate, 24 Gm.; calories, 685.

One serving: protein, 7 Gm.; fat, 13 Gm.; carbohydrate, 6 Gm.; calories, 171.

COLD SLAW (Two Servings)

Materials:

- 2 cups finely chopped raw cabbage
- 2 teaspoonfuls chopped onion
- ½ cup chopped sour apple
- Salt and pepper
- 1 tablespoonful butter
- 4 tablespoonfuls vinegar
- 1 grain saccharin

Method:

1. Mix cabbage, onion and apple
2. Season with salt and pepper
3. Melt butter and mix thoroughly with cabbage
4. Heat vinegar, dissolve saccharin in vinegar and pour over cabbage
5. Serve cold

Total recipe: protein, 3 Gm.; fat, 14 Gm.; carbohydrate, 15 Gm.; calories, 196.

One serving: protein, 1 Gm.; fat, 7 Gm.; carbohydrate, 8 Gm.; calories, 97.

ESCALLOPED SALMON AND CELERY (One Serving)

Materials:

- ⅓ cup canned salmon
- 3 tablespoonfuls cream
- ⅓ cup cooked celery
- Pepper
- 1 teaspoonful butter

Method:

1. Mix salmon, celery and cream
2. Season with pepper
3. Pour in a small baking dish which has been greased with part of butter
4. Place remaining butter on top
5. Bake in a moderate oven

Total recipe: protein, 17 Gm.; fat, 23 Gm.; carbohydrate, 4 Gm.; calories, 291.

ORANGE ICE (Two Servings)

Materials:

½ cup orange juice
1 tablespoonful lemon juice
½ cup water
1 saccharin tablet

Method:

1. Mix orange juice, lemon juice and water
2. Add saccharin tablet dissolved in 1 teaspoonful cold water
3. Adjust dasher in can of ice cream freezer
4. Pour mixture into can
5. Place cover on can
6. Attach handle and give a few turns to make sure the can and dasher are correctly placed
7. Surround can with ice and salt, using proportion of 3 ice to 1 salt
8. Freeze slowly
9. Allow to stand one hour to ripen
10. Serve

Total recipe: protein, —; fat, —; carbohydrate, 14 Gm.; calories, 54.

One serving: protein, —; fat, —; carbohydrate, 7 Gm.; calories, 27.

JELLIED SALMON AND CELERY (One Serving)

Materials:

⅔ teaspoonful gelatin
1 tablespoonful cold water
3 tablespoonfuls boiling water
1 teaspoonful lemon juice
2 tablespoonfuls salmon
¼ cup finely chopped celery
Few grains salt

Method:

1. Soak gelatin in cold water five minutes
2. Pour boiling water over gelatin and stir until it is dissolved
3. Allow to cool
4. Add lemon juice
5. Mix salmon, celery and salt
6. Add gelatin mixture
7. Pour into a small mold
8. Allow to stand in a cool place until firm
9. Remove from mold and serve on lettuce

Total recipe: protein, 9 Gm.; fat, 4 Gm.; carbohydrate, 1 Gm.; calories, 76.

CABBAGE SOUFFLE (One Serving)

Materials:

½ cup cooked cabbage
1 egg
2 tablespoonfuls cream (sweet or sour)
2 tablespoonfuls lean meat cooked and chopped
Salt and pepper
½ teaspoonful butter
1 tablespoonful grated cheese

Method:

1. Chop cabbage fine
2. Beat egg until smooth
3. Add cream, meat and cabbage
4. Season with salt and pepper
5. Pour into small baking dish which has been greased with butter
6. Sprinkle grated cheese over top
7. Bake in a moderate oven until firm and brown

Total recipe: protein, 11 Gm.; fat, 14 Gm.; carbohydrate, 4 Gm.; calories, 186.

PICKLED PEACHES (One Quart Open Kettle)

Materials:

2 pounds peaches, ripe and firm
1 cup vinegar
4 cups water
¼ teaspoonful salt
1 stick cinnamon
1 teaspoonful cloves
½ grain saccharin

Method:

1. Pour boiling water over peaches and let stand for one minute
2. Drain and peel
3. Bring water and vinegar to boiling point in sauce pan
4. Add salt, stick cinnamon and 1 teaspoonful cloves tied in bag
5. Add peaches to liquid, three or four at a time
6. Cook till tender
7. Remove to jar, sticking two cloves in each peach
8. Add ½ grain saccharin to liquid in which peaches have been cooked.
9. Fill jars with this liquid
10. Run knife into jar to remove air bubbles.
11. Seal tightly, and store in a cool dry place

Food value of one peach: protein, 1 Gm.; fat, —; carbohydrate, 10 Gm.; calories, 44.

SALMON SOUFFLE (One Serving)

Materials:

1 egg
1 tablespoonful water
1 teaspoonful lemon juice
Salt and pepper
⅓ cup salmon (cooked or canned)
½ tablespoonful butter
½ slice lemon
½ teaspoonful chopped parsley

Method:

1. Separate yolk from white of egg
2. Beat white until very stiff
3. Beat yolk, add water, lemon juice, salt and pepper
4. Add salmon, which has been divided into small pieces
5. Fold in stiffly beaten egg white
6. Pour into a small baking dish which has been greased with part of butter
7. Dot remaining butter over top
8. Place dish in pan of hot water
9. Bake in a slow oven until firm
10. Serve at once garnished with lemon and parsley

Total recipe: protein, 17 Gm.; fat, 18 Gm.; carbohydrate, —; calories, 230.

New Books *on* Health

Reviewed by
Morris Fishbein, M.D.
and Others

THE NEW WAY IN CHILD TRAINING

By Ray C. Beery. In ten volumes. The Parents Association, Pleasant Hill, Ohio, 1929.

WE HAVE become a standardized nation. We have formulas for everything. Children are lead along standardized paths to standardized occupations. Our formulas for success are innumerable. Educated mothers turn their children over to nurses while they themselves attend classes in child psychology.

The purpose of this series is to bring child psychology into the home. A number of educators have cooperated to prepare the books. They have utilized modern typographic methods of display and illustration, and the lessons they present are sound. The various booklets deal with obedience, with making a normal child brighter, with bad manners and good manners, with harmful habits, with fears, with ill temper, falsification and theft, with health and sex problems, with thrift and ambition. If any child can possibly be inculcated with all the lessons that are here set forth, he will probably be a very nice child. Certainly it will profit parents to read these articles and to follow the advice in the rearing of their children.

There is today available a tremendous literature in the field of mental hygiene for the child. Practically everything that is brought out in these books has been published at one time or another in HYGEIA by various authors. The books by Blanton, Seham, Sachs, Thom and many others also cover the same ground.

In connection with the distribution of these books a special consultation service is offered to mothers who have problems to settle. The publishers report a membership of 60,000 in their organization.

M. F.

THE CHILD'S HEREDITY

By Paul Popenoe. Pp. 304. Price, $2. Williams and Wilkins Company, Baltimore, 1929.

EVER since the theory of evolution was first stated, there has been a continuous effort on the part of scientists to state more clearly and simply the conditions favorably influencing heredity. In this new work from the pen of a familiar author, there is much that should recommend itself to all who have to do with children, whether they be parents, teachers, psychologists, juvenile court workers, investigators or physicians.

Throughout the book the author clothes in understandable language many of the somewhat vague impressions which the average person has of this subject. To illustrate with a quotation: "The most striking thing about the constitution of the cells is that it continues from generation to generation with so little change. A cauliflower always produces another cauliflower—it never produces a cockroach. There are slow changes, spread over millions of years—these make up evolution. There are slighter changes almost incessantly—these make up variation. But the real changes are much less frequent than is sometimes supposed, for nearly all the differences between children and their parents are due not to any actual alteration in the germ plasm, but merely to reach combinations of the two parents."

Mr. Popenoe's discussion relates to the child's ancestors, the brothers and sisters, the skin, eyes, ears, hair, teeth, blood, growth, errors of development, left-handedness, diseases of the body, intelligence of various kinds and levels, intellectual deficiency, diseases of the mind, constitution, temperament and sexology. He brings to this work a completeness and clarity of discussion that make it valuable in its field.

The bibliography, which consists of 418 selected references, is gleaned from the best literature in English, French, Italian and German, and is of great value to the person who would improve himself by a breadth of reading.

R. G. L.

EDUCATIONAL OBJECTIVES OF PHYSICAL EDUCATION

By Frederick Rand Rogers, Cloth. Pp. 109. Price, $1. A. S. Barnes & Co., New York, 1929.

THERE has been active effort the last few years to make the teaching of physical education more of a profession with educational principles and philosophies than it was inclined to be in the past. This brief book by Mr. Rogers is an excellent addition to this effort.

The author points out the social and educational philosophies that are the product of the best thought of today, and lists the objectives that are most susceptible of improvement in physical education.

Physical education and health play a fundamental part in education and all teachers need to give these factors adequate consideration. The teacher must understand the physical capacities of the child and must make adjustments to meet these needs.

Especially in the elementary grades, every teacher needs to be a physical educator, so that the child's activity may be coordinated with all phases of learning.

For the intermediate and secondary schools, Mr. Rogers suggests that every teacher take part in some pupil physical activity as a means of knowing the pupils better and that every teacher make more adequate use of the activity possibilities of his special subject.

The physical education teacher needs broad professional training in order to adapt her material for individual as well as for group development. Principals and superintendents, Mr. Rogers thinks, should instigate the best type of program.

A large part of the book is taken up with reviews of reading sources on the philosophy, methods and program of physical education. There are some interesting charts on organization of health and physical education.

The main contribution of this book is in its sound emphasis on the educative qualities of physical activity and on the need of their consideration by every one who is teaching children.

A. E.

HEALTH *and the* SCHOOL

Edited by
J. Mace Andress, Ph.D.
67 Clyde Street, Newtonville, Mass.

The Story of the Building of a Hut

"Say, Dad!"

"Yes, Phil, what is it?" I asked with a bit of impatience, for I was hard at work at my desk preparing a lecture for an afternoon class.

"We boys want to build a hut!"

"All right," I said, "why don't you build it?"

"We are going to," he replied, "but we need your advice."

The hut built by the "three musketeers."

Then I woke up. When your 11 year old boy tells you that he needs your advice it is time to forget everything else. I pushed my books and notes back on my desk and turned around in my swivel chair. I was keenly interested. How many times we parents have offered advice only to have it fall on deaf ears. Here was a real opportunity perhaps to be of service—to give some advice that was wanted.

For a long time Philip had been one of an inseparable group of three boys. They were in the same class at school and planned nearly everything together, both their work and their play. In the immediate neighborhood they were known as the "triumvirate" or "the three musketeers." Their parents had encouraged this association.

It was evident now that a big thing was stirring in the minds of the three musketeers. That big thing was a hut. I told Philip and the boys that I was interested and willing to help them out, but wanted to know more about their plans. I must know first of all how much lumber it would take. Together they drew up some rough plans, which had to be revised several times at my suggestion.

One of the boys said that it was always necessary to secure a building permit from the city hall. A call by one of the parents at the city hall brought the necessary permit, with a remark and wink from the official that he really thought the projected building should be equipped with fire escapes. The formal green building permit was immediately nailed to a tree on the site. The plan called for a building 6 by 5 by 6 feet. The boys and I called at the lumber yard and found that the lumber would cost a moderate sum. I volunteered to pay the bill with the understanding that the other fathers were to help in the building and assume any other big items of expense. Bud's father offered the land and Thad's father gave a good deal of advice and actual help in building. The fathers and all the parents eventually concerned in the project contributed generously.

Those were great days when the boys built the hut. Every minute outside of school was spent in its construction. They scarcely took time to eat and sleep. Philip was eager to get the morning paper to find out whether the weather was going to be good for work. Before they had finished laying the foundation and had put on a roof rainy weather was the greatest possible calamity. "Just think of this whole day being wasted," said one of them with disgust on a drizzly Saturday.

The boys did practically all the work themselves. The framework of the roof gave them some trouble and some of the fathers were called in hastily to diagnose the trouble and suggest a remedy.

Finally the hut was up. I shall not say finished. The finishing was one of the intriguing aspects of the adventure. Not until the boys had become so big that they could not get inside the hut could it be said to be finished. Of course, it had to be painted. Then it had to be furnished with substantial pieces.

Three attics were searched diligently for linoleum, chairs, dishes and cooking utensils. The table was quite a problem. A table large enough for their needs could be squeezed into the hut (it never had any other name), but when a meal was over it was in the way. The problem was finally solved by making a table which was fastened to the wall by hinges. It had one collapsible leg, and after use could be made to swing inoffensively against the wall.

A stove was necessary to cook their meals. This meant a pipe through the roof with additional carpentry. On the roof they installed a modern ventilator.

With the approach of hot weather the boys decided that they needed a piazza. Then they needed a bell on the front door. Becoming weary of a kerosene lantern they were finally able, with the help of the fathers, to get the hut wired.

When the boys were not doing something to fix up the hut they were enjoying it as a club house. There they cooked many a meal. They had a little ice cream freezer with which by means of the mothers' help they made delicious desserts. Magazine advertisements were read with care to find offers for free food samples, which soon began to pile up on their shelves. Around their bountiful board they

talked over the events of the day, read and told stories, and planned other things for their hut.

Shortly after the building was started membership in the hut association was increased by two additional members, Douglas and Alfred, making five in the organization. It was soon evident that such an association needed laws for the welfare of the group. Sometimes the door was left open or the dishes unwashed or somebody tracked up the clean floor. Definite rules with a system of fines were adopted. A regular system of dues and a treasurer were required in order that certain general expenses might be met. On Hallowe'en nights when marauding gangs were about, further cooperation of a defensive character was necessary if the hut were not to be destroyed or carried off bodily.

I shall not soon forget one Christmas tree which the boys bought and decorated. From my study window I could see it brightly illuminated with its colored lamps. When it was loaded with gifts we parents were invited in to enjoy it. One day as I was approaching the hut to surprise the occupants I heard a sudden outburst of song. The boys inside were lustily singing Christmas carols. That was a Christmas long to be remembered by the five musketeers.

For a few years this hut played a vital part in the lives of these boys. Then came that rapid period of growth in adolescence; they had outgrown their shell and were left stranded for a new kind of habitation. This was eventually found in the basement of my house, where a pool table was installed. Here they find ample place to stretch their legs, to play pool, read current juvenile magazines and books and even dance with the children of the neighborhood who tend to make it a clubroom.

The hut still stands just as it was, fully equipped, a mute but eloquent monument of the days gone by. I believe it was a worthy project in healthful living and citizenship. Here the boys learned much about thinking, planning and getting along with one another. It was a school for hygienic living. The need of ventilation, cleanliness and order was imperative. They learned as they could not learn from books that garbage had to be taken care of and the dishmop cleansed and exposed to the air. Many of the things they had heard their parents and teachers say made little impression. Here face to face with reality they realized keenly the need of practicing the laws of health as the foundation of a social enterprise. In such an atmosphere self-reliance, initiative, cooperation and friendliness had a rare chance to blossom forth.

If we teachers in the classrooms could only manage our teaching in such a way as to insure such outcomes how delightful it would be. And is there not a suggestion here for parents and teachers? The leisure hours outside of school are precious because of the opportunities they offer for guidance and training. Too frequently those opportunities are lost. As the amount of leisure time in society increases because of the improvements in machinery the need of training children to enjoy their leisure in a healthful and profitable way will become more insistent. What is your school doing to train children for such a future?

TEACHING HEALTH

(In this column will be published each month concrete examples of good health teaching. Teachers are invited to send in contributions not exceeding 600 words and preferably less to the editor of this department. Illustrations of the actual work of children will be welcomed. Contributions accepted will be paid for but no manuscripts will be returned.)

THE HEALTH SPECIAL

DURING the school year 1928-1929 our health work at the La Vina Health School, Pasadena, Calif., centered around what we called our health keys—sunshine, fresh air, rest, exercise, fresh food, cleanliness and happiness. As the work progressed there arose the question of a suitable project to help bring out and fix the importance of these health keys in the minds of the children.

The plan for a health train was finally decided on. This naturally brought up the problem of what could best be used for this purpose. As soap plays such an important rôle in health it seemed quite appropriate that this should be the material chosen.

Two cakes of soap glued together were carved out in the shape of a milk bottle, and another piece added to form the rear of the engine. With a tiny soap milk bottle for a smoke stack and spools for wheels all our engine needed to make it complete was a coat of paint and the inscription Health Special carved along one side.

Seven more cakes of soap hollowed out in the center to look like box cars gave us the rest of our train. After this each car was given a coat of poster paint. The milk bottle part of the engine and the smoke stack called for plain white, while the rear was painted a light tan. The other cars varied in color, white being chosen for the cleanliness car, dull yellow for the sunshine car and for the remaining ones various shades of brown and green which seemed to blend best with the contents of the respective cars. Then came the fun of planning what should go into each car and the name that should be given it.

What to use for the sunshine car occasioned considerable discussion but it was finally decided that a ball with different length rays extending from it might very well represent a miniature sun. This and the standard on which it stood were made of plasticine, then painted a bright yellow and the car christened Sunshine Overland.

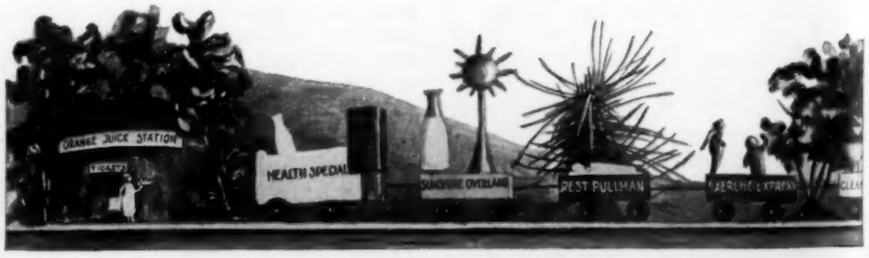
The next car, the Rest Pullman, was a much simpler matter. When fitted up as a bed with a tiny baby doll resting peacefully in it, it was quite expressive of that important health requisite rest.

The cleanliness car especially featured articles made from soap, including comb, hair brush, tube of tooth paste, tooth brush, nail brush, and a stationary wash basin. A tiny wash cloth and towel made from toweling completed the contents of the Cleanliness Extra.

A dainty plasticine figure with flowing robes, surrounded by pine twigs to represent pine woods, furnished the motif for the Fresh Air Local.

A child who was clever at modeling made two baseball players out of brown plasticine, each wearing a tiny green baseball cap. One held his bat in position ready for a strike, while the other boy stood with raised arm about to throw the ball which he held in his hand. Thus the Exercise Express was accounted for.

Vitamin Limited was the name selected for the fresh food car,



A train built by California school children to illustrate the importance of

piled high with its load of bright colored fruits and vegetables.

A bluebird modeled from clay, painted in natural colors and mounted on a twig tree, furnished the happiness symbol for the Happiness Extra.

A track was made from plasticine with sand scattered between the rails to make it more realistic. Then the various cars were fastened together with tooth picks, the spool wheels were placed on the track and the Health Special was ready to start on its first trip to Healthville.

The train without a setting, however, did not seem to be complete. Various suggestions from different members of the school soon settled this problem. On one side of the long shelf which had been made especially for the train a large tunnel, in the shape of lettuce leaves, was constructed out of green plasticine and appropriately named Lettuce Tunnel. Near the other end of the shelf a semicircle of clay, painted a bright orange and with a little ticket counter inside, served for Orange Juice Station. Outside, an orange vender, dressed in white cap and apron, offered a tray of oranges for sale, while close at hand stood a fruit stand piled high with the same golden fruit. It was decided that the station itself should be surrounded by orange trees. So we visited a nearby orange grove, where we found branches on which were tiny green oranges. The use of a little orange poster paint worked wonders, and we soon had the desired effect of trees laden with ripe fruit.

Of course one thing brought up another and one bright girl suggested that danger signals were needed where the tracks curved and at the opening into Lettuce Tunnel. Forthwith these appeared in the form of a red coffee pot, pipe and germ, the latter being placed at the entrance to Lettuce Tunnel, because as one child so aptly expressed it, "The air in the tunnel isn't fresh, so it would be more likely to have germs in it." A pasteboard milk bottle and a large orange served for signs to point out the distance to Orange Juice Station and Healthville, and a few "trees" of live oak and pine in the background completed the project.

In our school exhibit, which came soon after the train was finished, the Health Special attracted more attention than any other one thing. But, more important still, it had helped to bring home to the boys and girls in a more realistic way than ever before, the importance of our so-called health keys—sunshine, fresh air, rest, exercise, fresh food, cleanliness and happiness.

GRETCHEN L. LIBBY,
La Vina, Calif.

A JUNIOR SAFETY COUNCIL IN ACTION

THE Junior Safety Council of Goode Street School was organized for the purpose of reducing the number of accidents and cases of preventable illness.

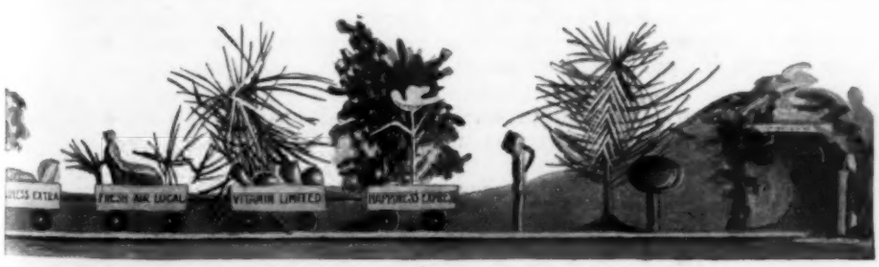
The council was organized with student officers as follows: president, vice president, secretary, chairman of the bulletin board, chairman of patrols. The principal of the school was adviser. Each grade sent two representatives and there were patrols appointed for the halls, steps, grounds and lunchroom.

The council convened each Monday and discussed matters pertaining to safety in the lunchroom, halls, playground and home. The secretary made a health and accident record and report. The grade having the fewest accidents during a period of one month received a framed accident certificate, while the grade having the fewest cases of preventable illness received a health certificate.

The children became vitally interested and they soon fulfilled all the requirements for star membership. There were fewer cases of preventable illness when prevention was taught through the junior council. The bulletin board in the hall was an attractive feature, as it was filled with novel ideas for health and safety. The children enjoyed making posters for this board.

Health and safety were correlated with other subjects by the classroom teacher. Safety became a habit with the children. Health habits were better understood by them. They learned something of parliamentary law. And, last of all, they gained a desire for health and safety.

SUSIE GREEN,
Montgomery, Ala.



sunshine, fresh air, exercise, rest, fresh food, cleanliness and happiness.

CHOOSING THE RIGHT FOODS

A METHOD I use in my rural school to encourage choice of better foods is a "make-believe" cafeteria. After studying about the proper selection and preparation of food, the children are asked to bring magazine pictures of all kinds of foods, good and bad, and of knives, forks and spoons. Then the children make their trays, using the cardboard backs of their tablets, decorating them to suit their individual tastes. Each food is priced, and all of the foods suitable for a certain meal are placed in cafeteria style on a long table. One at a time each child passes around, selects his food, pays the cashier, who is one of their number, and is seated.

When all have made their selection, each one tells what he has and why he selected it. All criticize and discuss it. But, usually with careful preparation, each one selects a well-balanced meal, omitting such undesirable foods as doughnuts, pies and fried foods.

The next "cafeteria" day a different meal is planned and different food is served.

HELEN L. HOSTETTER,
Sibley, Mo.

NEW HEALTH BOOKS AND TEACHERS' MATERIALS

DR. REES, an active head of one of England's celebrated psychopathic clinics, has written a readable book on mental health[1] for the layman. He denies that there is any panacea in medicine or philosophy. He does not think of psychology as a conjuring trick whereby one will readily cure himself. Nevertheless the author contends that if one learns to think clearly on certain mental problems along a road that is well worth one can proceed much further traveling.

"To a lesser or greater extent we are all of us square pegs in round holes, and it is only as we get insight into ourselves and see how we may adapt and adjust ourselves to life that we can fit into the round hole and get that ease of mind and mental health, for which we wish," says Dr. Rees.

1. The Health of the Mind. By J. R. Rees, M.D. Pp. 266. Washburn & Thomas, Cambridge, England, 1929.

There is a good deal of common sense packed into this volume, which should be helpful to the general reader, parent and teacher.

THE second monograph[2] of the School Health Research Series has been published by the American Child Health Association. It is based on the measurements of 8,000 public school children and on other measures relating to the features of school health programs. The conclusion is reached in this study that in estimating nutrition measurements of girth and subcutaneous tissue are of more significance than measurements of weight. The monograph is highly technical in character and contains little of immediate practical importance. Probably it foreshadows for the experts in nutrition new theories and procedures in school health work.

THE foundation of all health instruction and training is the teacher. In this report[3] Dr. Galdston has told briefly about a five-year study at the New York Training School for Teachers. This experiment was based on the theory that a health education program vital to the community could be carried on when there was available: (a) teachers who know the facts of health education; (b) teachers who know how to teach those facts; (c) a school curriculum that enables the teacher to teach health education.

The result of this important study is an outline of the course in health education given in the New York Training School. The course is definite and clear cut but seems to overemphasize anatomy and physiology somewhat to the exclusion of hygiene and methods of teaching. However, this might not be apparent in a more complete report. Dr. Galdston has done some pioneer work in a field that needs much attention if we are to make progress in health education.

THE Parent Teacher Associations throughout the country are doing a noble work, but some of them have frequently been handicapped in not having well thought out programs for discussion. This timely and well prepared pamphlet[4] supplies suggestions for health discussions in their meetings.

There are nine short chapters in this publication dealing with such important topics as "Home, School and Community," "Before School Begins" and "The Nutrition of the School Child." Each chapter presents up-to-date facts about health and the school. At the end of the chapter are points for discussion that would enable the members of the association to react intelligently to their own home and school problems. Following the chapter on "The Health Examination of School Children" there are questions like these:

"Does each member know that her children are without defects—that eyesight is what it ought to be, hearing normal, feet strong, etc.?

"What use do the teachers make of health records?

"What percentage of parents are present at the physical examination of their children?"

There is an excellent bibliography seven pages long at the end of the pamphlet.

The American Child Health Association is to be congratulated on this unusually helpful publication. It should have a wide distribution and be a potent force in bringing about cooperation between the home and the school.

THE Cleanliness Institute, which is a public service organization for the promotion of higher standards of cleanliness in personal, home and community life, has performed a distinct service for teachers by making an analysis of 100 courses of study. On the basis of this analysis an outline[5] for cleanliness has been organized which demonstrates how cleanliness may be taught as a part of the classroom activity and not as an isolated subject.

The outline considers environmental essentials to cleanliness, appreciation of the esthetic and health values of cleanliness, and teaching material for the various grades. This outline for the teacher is one of the very best that I have seen. It is sound psychologically. For example, in dealing with cleanliness in the primary grades there is a section that reads as follows:

"Morning inspection should be a time of happiness. Make it a period of rejoicing over cleanliness rather than searching for dirt.

"*a.* Minimize self-consciousness and make the practice of the daily cleanliness habits matter of fact and a natural part of the daily duties.

"*b.* Suggest any action necessary as a matter of course, never as a punishment.

"*c.* Smile in approval at those who are clean, and in understanding of those who are not."

The outline is clear and has many suggestions as to methods and correlations with various school subjects. It should serve as a model for those who are making out courses of study. Every teacher will want to become familiar with this outline as she starts her work for the year.

THE authors of "Community Hygiene"[6] have recognized the growing need for health texts for college students. They have attempted to present those facts concerning the promotion and safeguarding of public health which they feel should be an essential part of the mental equipment of every college man or woman.

The approach in the first chapter starts with the history and development of modern public health work. This is a kind of appetizer for the more practical chapters that follow. The college student who is so fortunate as to have this volume as a text will find the field well covered, the language simple and direct and the studies carried out in a modern manner.

THE food problem—what to buy and how to prepare and serve it so as to keep the family healthy—is one of the greatest responsibilities of the modern homemaker. "Nutrition in Health and Disease"[7] presents the newer ideas in both the principles of nutrition and the practice of dietetics. It is divided into four parts: principles of nutrition, food selection, diet in disease, and cooking for the sick and convalescent. The book is admirably written and illustrated. The recipes for dishes suitable for the invalid will be appreciated. Teachers of hygiene and dietetics in high schools, colleges and hospital schools will find this a helpful book.

IT IS a hopeful sign of the times when a school system shows its sensitiveness to the principles of mental hygiene by conducting a serious investigation in this field. The great body of educators and psychologists have been inclined to overestimate the importance of intelligence tests. The psychiatrist has reiterated his conviction that a great many failures in school and in life are due to unstable emotional development. These two documents[8] contain stories of maladjusted children and methods teachers used to adjust them to life.

2. Physical Measures of Growth and Nutrition. By Raymond Franzen, Ph.D. Pp. 138. American Child Health Association, New York, 1929.

3. Health Education in Teachers' Training Schools. By Iago Galdston, M.D. Pp. 16. New York Tuberculosis and Health Association, New York, 1929.

4. Parent Teacher Associations and School Health. Pp. 64. American Child Health Association, New York, 1929.

5. An Outline for Cleanliness. Pp. 60. Cleanliness Institute, New York, 1929.

6. Community Hygiene. By Dean Franklin Smiley and Adrian Gordon Gould. The Macmillan Company, New York, 1929.

7. By Lenna F. Cooper, Edith M. Barber and Helen S. Mitchell. Pp. 546. Price, $3.50. J. B. Lippincott Company, Philadelphia, 1929.

8. The Educability of the Emotions—A Suggested Discussion Approach. School Document No. 2, Boston Public Schools, 1927.
Training the Emotions Controlling Fear. School Document No. 2. Pp. 127. Boston Public Schools, 1928.

Questions *and* Answers

If you have a question relating to health, write to "Questions and Answers," HYGEIA, enclosing a two-cent stamp. Questions are submitted to recognized authorities in the several branches of medicine. Diagnoses in individual cases are not attempted nor is treatment prescribed.

Ulcer of the Duodenum

To the Editor:—What are the best foods to eat and what treatment is best to aid the healing of a duodenal ulcer?

G. P., Wisconsin.

Answer.—There are decided differences in the diet as well as the rest of the treatment, in cases of ulcer of the duodenum. The essential features of the diet, which is associated with absolute rest in bed for a considerable period, are that it shall be composed of bland, nonirritating food, beginning with milk and cream and adding later soft eggs and cooked cereals, the meals to be given frequently and in small amounts.

Every person with ulcer of the duodenum should be under the care of a competent physician, who should see the patient at frequent intervals and prescribe the diet carefully.

Inoculation

To the Editor:—Do you recommend "shots" as preventives of colds and influenza? Is there any danger in taking them, or in typhoid fever "shots" or vaccination? J. H. H., Arkansas.

Answer.—While vaccines are used by a good many physicians as supposed preventives of colds and influenza, we believe that the large majority of physicians with considerable experience have not found them effective.

Concerning inoculation against typhoid the experience of the profession is different. Abundant experience, especially with the thousands of persons engaged in the World War, has demonstrated that inoculation against typhoid, when properly done, is a most effective preventive for the typhoid group of diseases. The immunity lasts usually for at least four or five years. Whether it is best for any individual to have himself inoculated depends upon the conditions present in his community. Public health measures in supplying safe water, sewage disposal, and other sanitary measures in larger communities have so greatly diminished the prevalence of typhoid fever and the danger of infection that the risk of acquiring the disease, except under certain conditions, is slight. If one is in a community in which an epidemic of typhoid appears or if one is going to travel away from home where he is not certain about the dangers of typhoid infection, it is well to have oneself inoculated.

Pasteurization of Milk

To the Editor:—In the September number of the *Ladies' Home Journal* there is an article on Malta fever by Paul de Kruif. In it he gives some alarming statistics on Malta, or undulant, fever in this country and ends rather dramatically by saying that every one should drink pasteurized milk. Will you investigate this article and let me know if there is cause for alarm? Mr. de Kruif seemed to stick pretty close to facts in his two recent books, "Microbe Hunters" and "Hunger Fighters," but in this article he seems to be an alarmist or at least a most sensational writer. We have certified milk in this city, yet frightened mothers all over the town have quit buying it and are taking pasteurized milk instead, on the strength of this article. We should like the facts and advice as to which milk we should give our children.

W. S. G., Oklahoma.

Answer.—Whether or not all milk should be pasteurized is a question about which there is much difference of opinion. It is not a question of undulant fever alone, but of other infections as well. Diphtheria, streptococcic sore throat, scarlet fever, and typhoid fever all have been transmitted by milk, and it is quite possible that other infections may sometimes be conveyed through the same channel.

In the production of certified milk, cattle are carefully tested with tuberculin, which assures a pretty adequate protection against bovine tuberculosis; but all these other infections may get into the milk either at the dairy or in one of the handling processes, and against them nothing but pasteurization or sterilization is a complete protection. However, this does not deter people from drinking raw milk in large quantities, and under certain conditions this may be attended with little danger. When and under what conditions pasteurization of milk should be insisted upon is a question to be decided by health officers in each community from time to time.

Pain After Appendectomy

To the Editor:—More than a year ago my wife was operated on for appendicitis; she may have to have another operation as she has a great deal of pain.

T. C. K., Ohio.

Answer.—It is not possible to give intelligent advice in such a case in the absence of a personal examination. We presume that the pain which the woman has suffered since her operation for appendicitis is due to adhesions, which frequently follow abdominal operations and sometimes cause pain and distress for many months after the operation is performed. This occurs even when the operation is done by the wisest and most skilful surgeons. It is always uncertain whether a subsequent operation will result in an improvement of the condition.

Rheumatic Fever; Gold Inlays

To the Editor:—1. What are some of the causes of rheumatic fever in children? Are serious consequences likely to follow? What can be done to prevent a recurrence? 2. Are gold inlays the most economical restoration of decayed teeth in the long run?

L. J. R., Minnesota.

Answer.—1. Rheumatic fever is a disease of germ origin. It is apparently due to streptococcus, whether or not of one or several different strains is still an unsettled question.

Serious consequences are likely to follow rheumatic fever, especially disease of the heart, which may result in permanent damage.

The best hygienic surroundings, careful inuring of the child to moderate degrees of cold and protection from sudden changes of temperature are useful measures in the prevention of colds. It is of the utmost importance for children who seem to be disposed to attacks of rheumatic fever to lead thoroughly hygienic lives, which means that they should eat simple, nourishing and well cooked foods in reasonable amounts, take the proper amount of outdoor exercise, get plenty of sleep, and avoid late hours and indulgence in sports or other activities that lead to undue fatigue. The vaccines that have so far been used cannot be recommended as preventives for colds.

2. In many cases gold inlays, or fillings, are the most economical. The question is one for the dentist to decide.

Calcium in Food

To the Editor:—I am advised that manufacturers of stock foods are incorporating as high as 2 per cent of pulverized calcium carbonate in their product with the idea of supplying calcium in that way as part of the animal's diet. I have recently been informed that certain manufacturers of food for human consumption have also been incorporating calcium carbonate as an ingredient of their product. What value may be derived from such a content of a free calcium salt being supplied with, but separate and apart from, other foods?

W. W. B., Missouri.

Answer.—Calcium is an essential element in the diet of both human beings and lower animals. If the food substances comprising the diet do not contain a sufficient amount of calcium to meet the needs of the individual using it, the addition of the proper amount of calcium in the form of any of its assimilable salts would be beneficial.

The proper utilization of calcium in the blood is controlled by the parathyroid glands. In the case of hypofunctioning (underfunctioning) it seems that the body cannot utilize the calcium in the food, so the calcium content of the blood is not maintained at the normal level. As a result of the lowering of the calcium content, tetany results. This seems to be due to the unbalanced condition of calcium and sodium in the blood. If the parathyroid glands are functioning properly, it seems to be impossible to increase the calcium content of the blood above the normal amount by any feeding methods. In fact, if calcium is injected directly into the blood, the concentration is quickly lowered to the normal amount.

Just what part vitamin D plays in the assimilation of calcium is not known, but in its absence calcium seems to be eliminated from the feces. There is some experimental evidence that too much calcium given in the form of carbonates is harmful. This is especially true in the absence of vitamin D. The excess calcium seems to unite with the phosphorus as calcium phosphate, in which form it is eliminated. This cuts down the amount of phosphorus that the animal has for its use.

No element other than calcium seems to play such an important rôle in the body, and in the case of no other element does nature go so far to control the amount in the blood stream. Most persons think of calcium as essential for the development of bones. As a matter of fact, the proper amount of calcium is essential for the normal functioning of all the body cells; especially is this true of the nerves.

There should be a distinctive ratio between the amount of calcium and phosphorus in the diet. If too much calcium is added in proportion to the phosphorus, detrimental results will follow. This is especially true if the diet is low.

Food for Growing Boys

To the Editor:—The Boy Scouts of America is an organization dealing with boys whose average age is 15 years. One of the major activities is summer camping and overnight hiking where the boys are constantly on the go, either in play or in work. If you can give us information about the approximate number of calories a day necessary for a healthy, active, growing boy of this age, it will be helpful to us.

A. C. N., Illinois.

Answer.—Relative to the food needs of growing boys we cannot do better than to quote from a recent book entitled "The Normal Diet." In a discussion of the daily amount of food, expressed in calories, needed by individuals at complete rest and those in various degrees of activity, the following statement quoted from Gephart is made in regard to growing boys. In a study of the food consumed by growing athletic boys in a boarding school he states:

"They not only took a daily average of 4,350 calories at the table, but they bought 650 additional calories at a neighboring store, making an average daily consumption of 5,000 calories. This phenomenal requirement is the result of their development at this age and, more important still, their strenuous activities."

Of course, the weight and the surface area vary with different individuals. Happily a boy's own appetite and craving for food are a useful and a pretty direct estimate of his needs.

Diverticula

To the Editor:—What is the probable cause of diverticula on the descending colon when the man is and for years has been apparently in good physical health? Can they be cured or can their extension be prevented by internal medicine or treatment? Is surgery for their removal practicable? Are there any foods or physical activities that should be avoided? K. T. T., California.

Answer.—The diverticula that occur in connection with the colon or large bowel are due to a protrusion of the mucous membrane through the muscular coat of the bowel. Just what causes them in a particular case is usually not possible to determine. They occur in many persons who are never aware of their presence and they are discovered only in postmortem examinations, or they may be evident in x-ray examinations after a barium or bismuth meal test. They cannot be removed by internal treatment. In the majority of cases they do no harm and do not require treatment. When they do give rise to trouble, such as a constriction of a bowel from adhesion or in any other way, the only remedy is surgical removal. This should not be thought of, however, unless the evidence that they are the cause of serious trouble is unmistakable and emphatic.

No general directions as to food or physical activities can be given. They must be determined by the conditions present in an individual case.

Flabby Breasts

To the Editor:—Before the birth of my daughter nearly nine years ago, my breasts became much enlarged and remained so until after I stopped nursing her. Since then my breasts are lifeless and flabby. I have dieted sensibly and take daily exercises which keep my body slim and in excellent condition. I cannot see why a woman should not be just as attractive after her babies come as before, but the doctor who attended me was unsympathetic about my wish to retain the contour of my breasts. There is a fine Chinese doctor here, who is not a quack, and I have thought of going to him, but it is humiliating. Won't you please tell me what to do? Would the birth of a second child with proper care help me? S. H., California.

Answer.—The condition of the breasts described is a common one. It is seldom that the breasts return completely to the virginal condition after nursing, although the degree of firmness they retain varies.

If this mother were to become pregnant again, it is not likely that any treatment could be given to prevent the breasts returning after the nursing period to the flabby condition described. If manipulation and muscular exercise have seemed to improve the condition of the breasts, they should be continued.

It would be the height of folly to consult the Chinese doctor who makes claims to cure such conditions. The inquirer is located in a region in which there are many excellent physicians, and our advice is that she inquire of one of the medical schools in the vicinity for the names of the professors of obstetrics.